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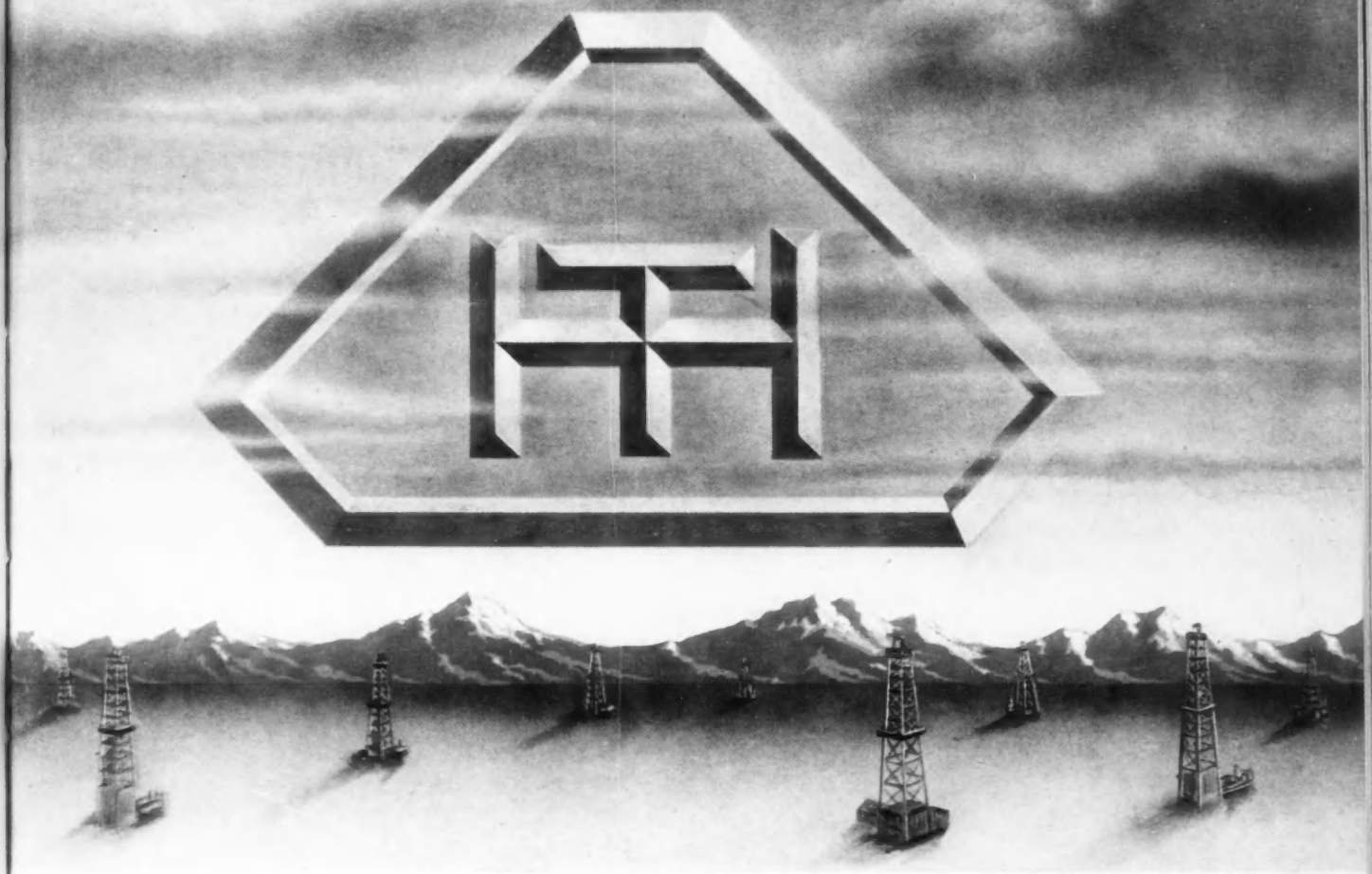

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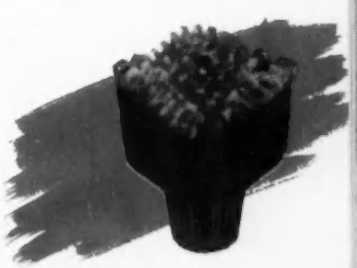

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PETROLEUM REFINER and The REFINERY CATALOG for the refining-natural gasoline industry

LOOKING AHEAD
. . . with the Editor

GREAT progress has been made in successfully handling salt water from oil and gas wells to prevent pollution of public and private water sources. However, the problem is always a grave one and sooner or later confronts most operators.

In reality, salt water disposal is big business in the oil industry. Approximately 50 million dollars have been spent on salt water disposal plants and producers are currently spending at the rate of $100,000 a month in solving the problem.

Oil companies are most eager to dispose of salt water in a manner that will not affect the public welfare. Departments staffed by experts in salt water disposal have functioned for some years and their work is steadily expanding in scope and value.

In contrast to the primitive open-pit evaporation systems which were first introduced into the oil fields, the present salt-water disposal systems are as modern and scientific as research can make them.

Nearly all oil-producing states have strict laws governing pollution and the control of waste from oil fields. Knowledge of these regulations and their strict observance is fundamental if the oil operator wishes to keep out of trouble with the state, and individuals concerned.

A digest of the rules in force in the most important oil states has been prepared by Anthony Gibbon, staff writer, and will be presented in a forthcoming issue.

THE OIL WEEKLY

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The Outlook

With V-E day past, oil is confronted with many uncertainties, big questions being Pacific war demand and European requirements.

Until military forces can be shifted to the Pacific, demand will slacken. Nevertheless, current high producing and refining operations will be maintained and large quantities of products, especially motor fuel and aviation gasoline, will go into storage. A serious storage facility shortage looms.

Once full-scale Pacific war gets under way, high consumption of oil will be resumed. Even though military needs hereafter will decline, increased civilian use at home and abroad will keep overall consumption high, resulting in little change for producing-refining rates.

U. S. motorists can expect more fuel within 30-90 days.

Europe, big prewar purchaser of kerosine and heating oils, will want even more, what with her refineries and synthetic fuel plants destroyed. Army trucks will supplant much of the damaged transportation system in hauling foods, reconstruction materials and other essentials and to clear war debris. Experience after World War I reveals this. Already a European petroleum supply committee has been named by PAW. Increased civilian use thus need not be large to offset military reduction.

Military requirements for motor fuel will be less but war use of residual fuel, aviation gasoline and ingredients for toluene and synthetic rubber will continue large. This means adjustment again of refinery yields. Heavy demand for certain products will require near-record refinery operation and explains how sufficient motor fuel and kerosine for enlarged civilian consumption will be possible.

And as long as refineries run at near capacity, crude oil production must be maintained at a high rate. Drop from high production rate, not yet in sight, may come gradually toward end of Jap war.

Very few tankers will operate coastwise because of the long haul to Pacific war theaters and need for both military and civilian oil in Europe. Pipe line deliveries, less that part earmarked for Europe, will be the East's main source.

* * * *

Look for PAW gradually to whittle down its staff, skeletonize construction and materials divisions, reduce transportation division. Foreign divisions may attain increased importance as war picture changes and materials become available for producing United Nations oil from non-U.S. sources.

* * * *

Disposition of Canol facilities may be taken out of War Department hands by Surplus Property Board as result of claim that Surplus Property Act of 1944 supersedes agreement by which Canada was given first option.

* * * *

Those who have become impatient because a number of "New Deal trouble-makers" have not been eased out may find that the rather deliberate Harry Truman has been waiting for V-E day, now passed, and the end of the San Francisco conference.

Without Fail

It happened in Burma. These airmen were briefed on the location of a small clearing behind the Jap lines deep in the jungle. Here they were to build an airstrip. To carry out the mission it was

necessary to land 37 gliders in complete darkness on the location without lights . . . they accomplished their mission without fail even though planes landed at all angles in the coal-black night. Almost all gliders were destroyed or damaged—the field was completed the next day.

No. 4 of a series of authenticated missions, the details of which are still military secrets.

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The Changing Panorama

Pretty Soon!

TWO things we're going to find out pretty soon.

One is whether the end of war in Europe will mean a cut in petroleum demand, as contended by some oil men, or whether, as the military insists, it will not be lessened. The answer lies in European consumption. If those nations get all they desire overall demand could continue at peak. Much gasoline may go to Europe for "rehabilitation" in which case Americans will continue under strict rationing.

The other revelation due soon is whether official Washington is disposed to continue government by bureaucracy after the war. Will agencies now tighten their belts and make an effort to get along with a minimum staff or, will unnecessary positions be filled, for instance in PAW? If the latter occurs, then we'd all better do some sober thinking.

PAW heads repeatedly have said that it is their sincere desire to turn oil back to the industry as soon as possible. Oil men today are looking for signs of preparations toward this transition. We hope we'll see no signs of plans to the contrary.

One such adverse sign would be appointment to PAW of men *who need jobs.* Thus far PAW has been staffed by capable executives anxious to lend a hand in winning the war and borrowed from oil companies who have cooperated wholeheartedly. Thus topflight men have gone to Washington—loaned to PAW even though they were badly needed by their regular employers. This explains why PAW has done its excellent job.

As long—during this war period—as the country is operated through bureaus, oil and other business must have their representative agency in Washington. But not a day longer than it is needed to win the tough Jap war ahead does any sound thinking man want PAW, along with any other of the war-born bureaus, to continue.

Pretty soon we'll find out.

Unitization Plan

OKLAHOMA'S new compulsory unitization law represents the latest step in the promotion of efficient and economical oil production practices. The law provides for enforced operation of a field as a unit where 50 percent or more of the lease owners favor such a plan.

This will make it much easier to unitize operations and should increase the number of fields in which pressure maintenance and secondary recovery methods are applied. Increased ultimate recovery of many fields should result.

It will be interesting to watch Oklahoma's experience with a law of this character. It may convince other oil-producing states, and also more operators, that such practices are desirable.

Solution of Texas Gas Problem

IT WILL take an economical urge, i.e., better price at the well, before the Texas gas problem will ever be solved. And better prices will come only when there is a larger available market. Many Texans fail to appreciate these facts.

Right now there simply isn't sufficient market for Texas' gas and consequently producers are forced either to flare it or, if fortunate enough to find a market connection, to sell it for whatever they can get. Normally this is a very low price for a very small volume.

A part of the need for larger markets, but only a small part, will be furnished by postwar use of gas in chemical, plastic and other such industries. Actually, the volume of gas required for such operations, even on a tremendous scale, would be very small.

Use of gas as a fuel must continue to be the principal market outlet. The answer to gas waste, then, is not to be found in adoption of taxes or laws to prevent exportation of Texas gas to other states. Such practices probably would not be upheld in federal courts, especially if they did not apply to Texas consumers as well as out-of-state users. Limiting use of gas would only make the situation worse, for the market in Texas, certainly for years, can never be increased to where it will approximate the amount of gas available. Therefore, exportation of gas to out-of-state consumers is of prime importance to Texas bas conservation.

Sale of larger gas volumes, whether within or without the state, would provide much revenue to oil and gas producers and in turn more tax money for the state. What this can mean to the development of an area can be appreciated by the development in the Texas Panhandle during the past 15 years. Construction of big interstate natural gas pipe lines was a prime factor in this growth. The tremendous quantity that was popped into the air in the Panhandle prior to the building of these lines is a well-known story of waste. Meanwhile, the people of this area have received much money they otherwise would not have had, although the prices have been very low.

Once a ready market is established, Texas gas will become something of value instead of a nuisance. Next to Texas, California is the biggest oil-producing state, yet it is difficult to find gas flares there. The difference is that Californians have a ready market and receive from three to seven times more for their gas. They have an economic urge to save their gas, and the financial basis facilities necessary to handle it.

When markets establish such economic conditions in Texas the state's gas problem will be easily solved.

Let's Amputate!

COMPTROLLER General Lindsay Carter Warren, whose term extends for 15 years, and who is certainly in position to be more independent than any other federal official, speaks his piece thus about government corporations before the Senate Banking Committee:

"If the present trend continues or is not curbed, we soon will have a government by government corporations. A large part of the government today is operating independently of congressional control and is free of accountability to the executive. Indeed, this thing we call government has reached such Gargantuan proportions that it is sprawled all over the lot. It has become greater than Congress, its creator, and, at times, arrogantly snaps its fingers in the face of Congress. The most necessary thing I know of is a thorough-going reorganization of the executive branch. It should be done scientifically, but once the decision is made, then a bush-ax or meat cleaver should be used."

President Truman must be looked to as the main leader in the wholesale amputations. He has given evidence already of his way of thinking when he lopped off eight billions from the Navy's construction program and knifed into appropriations suggested for war agencies no longer needed.

The President is on good terms with Senator Byrd who has charted the way toward economy by his long study of bureaucratic multiplication and waste of tax funds, and it would be easy for the two to find a common meeting ground. Truman is not hooked up sentimentally, as was his predecessor, with either these agencies themselves or the men who head them; so the lopping-off process should not be too painful for him. His close understanding with Congress, too, lends strength to the belief that he can do the job.

Certainly no greater service to the nation could be assayed. It's a terrific assignment, but one we hope the Missourian will accept as a challenge and do the turn-key job which characterized the activities of the Senate War Investigation Committee which he headed so effectively.

Army Gasoline By Air Transport

IN THE rapid sweep across Germany, it became necessary to fly large quantities of gasoline supplies to the army's mechanized forces.

In the first two weeks of April, Army transport planes flew 7½ million gallons of gasoline from storage depots to advance dumps deep in Germany. Record for a single day was ¾ million gallons transported by some 2000 planes. This is equivalent to the content capacity of 75 railroad tank cars.

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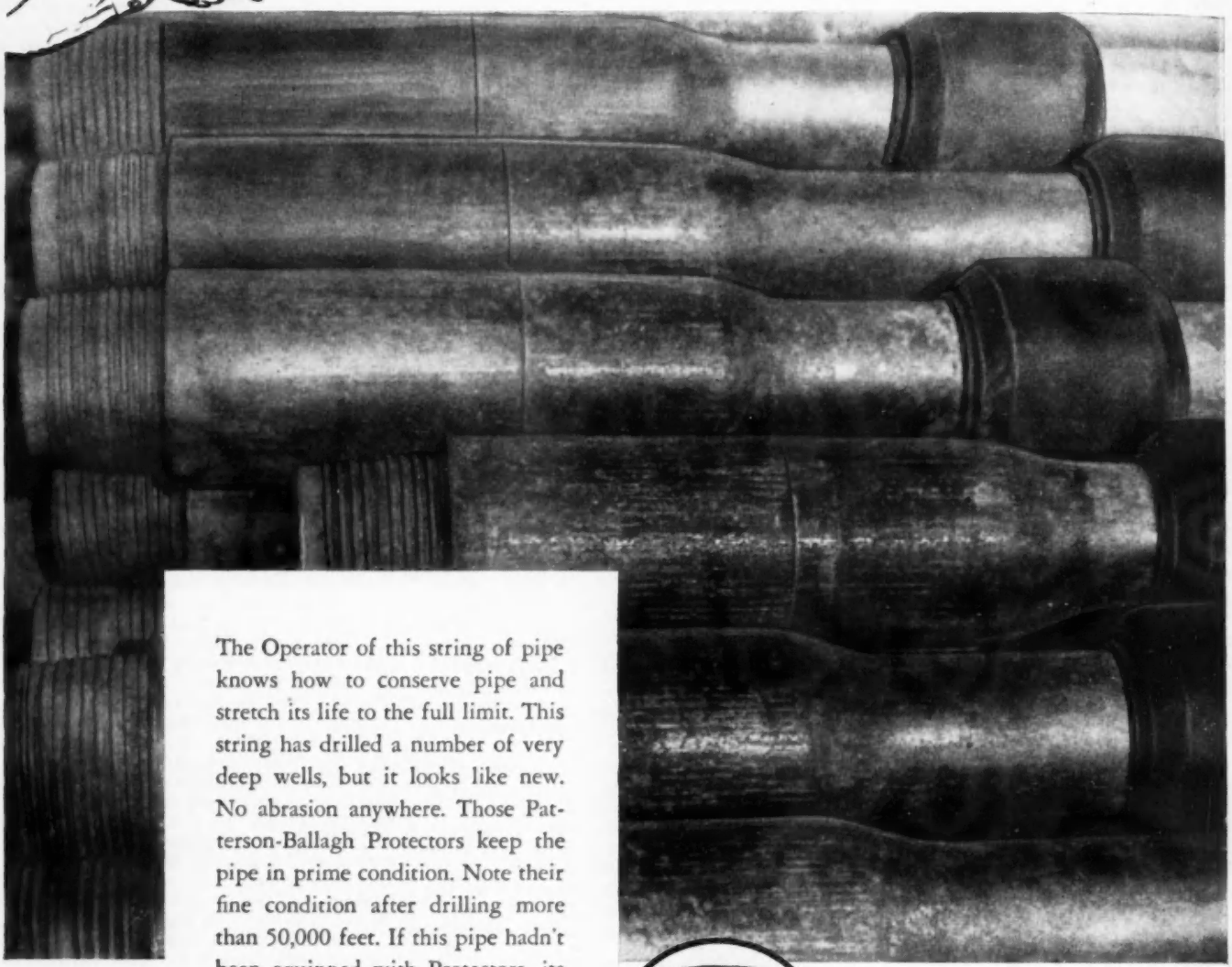

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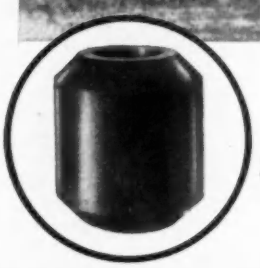

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The Week's News

THE end of the war in Europe last week focused attention upon the new problems incident to intensifying operations against Japan and laying the foundation for gradual reconversion of industry to peacetime operation.

Oil Equipment Situation Eased—First results of the easier materials situation will be increased production of oil field equipment, trucks and other items essential to the industry, but the expansion of civilian markets will be limited to an 8-to-16 percent increase in gasoline rations, with no relief in heating oil or kerosine and no prospects of automobiles in any substantial number for possibly a year. Page 30.

Oil Transport Big Problem—Big problem now is realignment of transportation to oil the war in the Pacific, while still supplying substantial quantities to Europe for troop use and for civilian purposes.

Borneo Campaign Watched—The United Nations are watching developments in the Australian campaign to retake Borneo, which may be the first oil area liberated. Aussies now are on Taraken Island, which formerly produced one fourth of the Borneo oil, which product usable for fueling without refining.

Refinery Bombing Results—Bombing attacks which destroyed at least 75 Nazi-held refineries were one of the factors which contributed to the conquest of Germany, it was disclosed by PAW. Page 29.

Traffic and Oil Imports—The House Ways and Means Committee was told that any further tinkering with tariff rates might lay this country open to a postwar flood of foreign oil which would knock stripper wells and many inland refineries out of the industry, and was warned by Russell B. Brown, general counsel of the Independent Petroleum Association of America, that foreign oil wins no United States wars when tankers are blasted out of the water. Page 28.

Drilling Cost Option Resolution—An effort will be made to get committee consideration of the Doughton resolution on the intangible drilling cost option as soon as the tariff bill is out of the way. The latest action of the Fifth Circuit Court of Appeals in denying a rehearing has done nothing to clarify the situation, oil men declare. Page 31.

Week's Schedule in Capital—Washington will be fully oil conscious this week, with meetings of oil and gas committees considering the presentation to be made before the Senate Investigating Committee, the PIWC session, a meeting of the IPAA executive committee and opening of the Senate hearings, with cartels as the first subject scheduled for consideration. Story below.

Texas Gas Regulations—Despite the fact that Texas' Legislature failed to approve new gas regulations, the Texas Railroad Commission has issued orders indicating that it aims to force cycling and pressure maintenance. Page 32.

Postwar Synthetic Rubber Markets—Broad postwar markets for synthetic rubber will depend to a large extent on price and special qualities as compared with the natural product. Page 32.

History of East Coast Oil—Nearly 2 million barrels petroleum were being delivered daily to the East Coast and a history of coordinated effort that overcame this important flow of a vital war materiel is recounted by William R. Boyd, Jr. Page 29.

Another Oil Production Record—United States, for the second successive week, has set a new all-time oil production peak. Figures compiled by THE OIL WEEKLY for the week ended May 12 shows the daily figure as 4,860,340. Texas and California make big gains. Page 31.

PAW Texas Certification—Crude oil production in Texas for the month of June will remain at the May figure of 2,170,000 barrels daily, Deputy Administrator Davies announced. Page 30.

Important Oil Gatherings Slated For National Capital This Week

Oil bids fair to be the outstanding subject of discussion in Washington this week, with industry representatives gathered for a series of meetings which will culminate in the launching of full-dress investigation of the petroleum situation by the Senate Special Committee on Petroleum Resources.

The week will start off with meetings of six sub-committees as appointed by the joint oil-gas steering committee to prepare for the Senate hearings, at which the presentations to be made as the various items on the committee's schedule are reached will be worked out in some detail. Each of the sub-committees has been assigned a separate subject, with the membership sufficiently broad in interest and geographical location to insure that all viewpoints will be represented.

PIWC Matters

The PIWC production committee also will meet in pre-council sessions to consider the production and materials situation, and may receive preliminary estimates of the changes which will result from the end of the war in Europe.

The 36th meeting of the PIWC will be held Wednesday, with attention expected to be centered on the new military situation and war with Japan. Also expected to come up for discussion are the British-American petroleum agreement and the Senate hearings, which will open the following day.

Senate Hearings to Start

The first subject to be considered by the Senate committee will be cartels in relation to petroleum in world trade, a subject in which Senator Joseph C. O'Mahoney of Wyoming, chairman, is intensely interested in in connection with his bill to require the registration of cartel agreements with the Department of Justice.

The executive committee of the Independent Petroleum Association of America will gather in Washington Wednesday evening for a two-day meeting originally scheduled to be held in the Southwest but switched to the capital because many oil men were due to be here for other conferences.

On Wednesday, Representative Wright Patman of Texas, chairman of the House Small Business Committee, will address the group at an evening session, and members of the Senate Oil Committee have been invited to set in at the evening session the following day, when the oil men will be addressed by O'Mahoney.

Drilling Cost Option Case

Major matters to come before the IPAA group will be the opening of the "sealed ballot" referendum taken to obtain an expression of opinion on the desirability of a permanent differential in price between stripper well and flush production and whether it should be secured, if found desirable, by payment of a higher price for stripper-well oil by the first buyer or by government subsidy.

The committee also will discuss the intangible drilling cost option in the light of the latest action by the Fifth Circuit Court in the F.H.E. case, and will be told by IPAA leaders that that ruling does not clear up the situation and the Doughton resolution putting Congress on record as intending that the option be granted should be followed up.

Brown Describes Threat of Heavy Oil Imports Following War Impetus

An import tax of 10½ cents per barrel is all that stands between the domestic oil producers and a possible postwar deluge of foreign oil, members of the House Ways and Means Committee were told last week by Russell B. Brown, general counsel of the Independent Petroleum Association of America.

Testifying in opposition to legislation extending the reciprocal trade agreements act and empowering the President to reduce the import duties in effect last January 1 by not exceeding 50 percent, Brown recommended that no further authority to cut rates be granted, that the extension of the act be less than the three years proposed by the administration, and that provisions be incorporated requiring Senate approval of all trade agreements which may hereafter be negotiated and providing for periodical review by Congress of the operations of the agreements and their effects on domestic industry and agriculture.

"Whatever authority is provided will be used to the fullest extent," he warned. "If through technical constructions it can be exceeded, that may be done. We in the petroleum industry have already had our experience with the non-compliance with what we believed was an express understanding."

Assurance of 1940

Brown referred to a written assurance given Chairman Doughton of the committee by former Secretary of State Cordell Hull in 1940 that in the event of a threat to industry, and specifically the oil industry, through the agreement with Venezuela, remedial action would be taken. Such a threat did develop almost immediately, he said, but efforts to obtain relief were unavailing.

The oil industry is not seeking to suppress all imports, Brown said, but "the proposition that the domestic industry cannot compete on even terms with large-volume foreign production cannot be controverted and, in fact, no attempt has been made to dispute the contention."

Among the factors which contribute to this situation, he cited the per-well output of foreign fields which is far in excess of that in this country, particularly under conservation policies, our high wage standard and high taxes.

Competition with foreign sources on even terms would be possible only by reduction of domestic costs to the level of those in foreign fields, a subsidy on all domestically-produced oil or by a tariff or excise tax which would tend to put imported oil on the same footing as domestic, Brown declared.

"We have good reason to be fearful of the menace of foreign oil in the postwar period," he testified. "Realization of such fear need not wait on final victory in the Pacific. There will be available for entrance into civilian channels of consumption a far greater volume of oil in South America and in the Middle East than ever before.

"Under the stimulus of war needs for petroleum, our government has given great aid and encouragement to the development of foreign reserves. This has not been confined to any single area. In the Caribbean region, particularly in Venezuela and Colombia, great emphasis was placed on drilling, pipe line construction and refinery expansion. Aid has been given to Mexico, both in financing and obtaining equipment, in the expansion of the government-owned petroleum resources and their utilization. In Arabia and other oil regions of the Middle East expansion and greater production were stimulated.

Effect of War

"All these measures were necessary. It was imperative to the war effort that petroleum be obtained in the places where it was most accessible to the military forces of the Allied Nations. But the stimulated and enlarged oil-producing capacity in these foreign areas is not a matter for the duration of the war only. The fruits of this endeavor will remain long after the war's end in the form of a great potential production, proved and substantially developed, and the owners and operators of the resources, spurred on by the governments of the countries in which the fields are located, will be seeking an outlet.

"Our government has, therefore, as part of the war effort given stimulus to foreign development and has thus enlarged the danger which the domestic petroleum producer has faced for years."

Brown asserted that the war has resulted in a loss in ability to produce and that domestic operators have been weakened by frozen prices and contended they would be in no position to withstand large-volume imports. The first to go under, he said, would be the stripper fields, with their possible four to five billion barrels of recoverable oil. There would be no incentive to discover new reserves and many industry workers would be made jobless. Inland refineries would be faced with a speedily declining supply of domestic oil and the benefits of imports would inure principally to the relatively few refining companies which are in a position to use foreign oil.

"Imports are not needed because of vanishing resources," he declared. "Back of natural petroleum we have natural gas, coal and oil shales from which vast quantities of liquid products will be provided, and there is no indication that we have reached the end of our petroleum resources.

"We know that under encouraging conditions the oil men keep on finding oil and, historically, the have found the most when the incentives were best. We also know that unless the exploratory effort be exerted, discoveries will not be made and it would be a simple task to become a 'have not' nation in respect to petroleum supply.

"We have that second line of defense against shortage. Would not not be national folly to establish any policy that would wreck the first line in the discovery and production of crude petroleum?"

Gavin Returns from China With Extended Oil Report

PAW last week had before it an exhaustive report on the oil situation in the interior of China, prepared by Martin J. Gavin, assistant director of the foreign refining division, just returned from a two-month investigation.

Gavin went to China in February at the special request of the National Resources Commission of the Chinese Ministry of Economic Affairs, to advise officials of that country on maters of petroleum and synthetic fuels for Free China as part of the war program. He was a guest of Dr. Wong Wen-Hao, minister of economic afairs in the cabinet of Generalissimo Chiang Kai-shek and chairman of the Chinese War Production Board.

Conditions as observed by Gavin will be reported to military authorities through Deputy Administrator Davies. Details of the report cannot be disclosed for security reasons, it was said.

Automobile Casualties Are Less Than Estimated

More than 446,000 privately-owned automobiles went off the roads last year, but the number of casualties was considerably below that which had been estimated, Federal Works Agency has disclosed.

However, there were 4,057,770 fewer cars registered in 1944 than in 1941, although trucks registered showed an increase of 33,164 over 1943.

"First quarter registrations indicate that further decrease this year in privately-owned vehicles, as compared with 1944 registration, will not be great," the agency commented.

The total number of private and commercial vehicles registered in 1944 was 30,086,189, a net decrease of 413,419, or 1.4 percent, as compared with 1943 registrations. Because of migration of workers, it was difficult to determine where the major losses in cars were, but the District of Columbia, Nevada, Missouri, Indiana, Ohio and Illinois showed the largest decreases.

Parkhurst and Jayne Are Promoted by PAW

Promotion of George L. Parkhurst of Chicago to a newly created post of contract executive of the refining division, and of F. M. Jayne to be assistant division director in charge of economics and facilities was announced last week by PAW.

Oil's Part in Wiping Out Germany's Refining Plants

How American gasoline made possible the tremendous operations just concluded in Germany and steadily reduced the Nazis' ability to stage big-scale offensive or defensive movements was disclosed last week by Deputy Administrator Davies.

Nearly 100,000 tons of bombs were dropped in some 270 raids on Nazi-held petroleum installations last year, knocking out at least 75 refineries. These repeated raids were necessary, he explained, because it is almost impossible to destroy a refinery, but served to put plants out of commission over long stretches of time and eventually to discourage further attempts at rehabilitation.

These bombings reduced the German supply of gasoline severely, he pointed out, and extreme measures were taken by the Nazi high command to cut down gasoline consumption by military forces, many Wehrmacht units being permitted to use gasoline only when engaged in actual combat.

On the other hand, the chief problem of the United Nations forces was transportation. Brigadier General Myron R. Wood of the Ninth Air Forces Service Command in a report to the War Department showed that in the first two weeks of March the Ninth Air Force flew an average of 1480 sorties a day at an expenditure of 633,795 gallons of gasoline and 19,013 gallons of oil daily. In the six months ending last March, he said, the Ninth Air Force expended 54,705,436 gallons of gasoline.

World-wide requirements of the United States currently were placed by Davies in excess of 7 million barrels of crude daily.

"Of this," he said, "the United States is called upon for 4,850,000 barrels, or 69 percent; South America, 14 percent; the countries of the Middle East 7 percent; Russia, 9 percent, and the remaining 1 percent from miscellaneous sources. Practically every field at home and abroad is producing to capacity—if not to the capacity of the wells, then to the capacity of the refining and distribution facilities related to them."

May 15 Deadline for 18-30 Group Deferment Requests

PAW last week warned operators that May 15 is the deadline for receipt by PAW manpower officials of any remaining requests for draft deferment for indispensable workers in the 18-30 age group on which the agency has not taken previous action.

National headquarters of Selective Service, it was stated, has announced that after that date it will no longer be mandatory for local draft boards to reopen and reconsider the classification of registrants in the age group for whom occupational deferment has been certified by PAW.

A board may reopen a case, even though the necessary documents are not submitted until after May 15.

History of East Coast Oil Deliveries Recounted as Outstanding War Effort

Three and a quarter years of effort brought petroleum deliveries to the East Coast from a prewar level which averaged around 1,500,000 barrels daily and at its best exceeded 1,600,000 barrels daily in only one month to a high of close to 2 million barrels on the eve of the capitulation of Germany.

How the combined effort of the industry and the government brought about his great increase in deliveries was outlined by the PIWC May 13 in a chart which showed that the low point in transportation came in May, 1942, when the daily average dropped to approximately 1,050,000 barrels, with another almost-low of something less than 1,100,000 barrels the following December.

The prewar average was touched for the first time in September, 1943, and thereafter was consistently exceeded with the single exception of January, 1944.

The chart showed that the rail movement was boosted immediately after Pearl Harbor, jumping from less than 75,000 barrels daily in December, 1941, to more than 800,000 barrels by the following August. It reached its peak in July, 1943, at almost 1 million barrels, thereafter declining until it dropped to something under 500,000 barrels in February of this year, the following month being pushed up about 50,000 barrels for the final drive.

At no time, it was disclosed, was the East Coast entirely without tanker service, although the deliveries dropped to a low of little more than 50,000 barrels daily in May, 1943. But the Navy, by releasing tankers when severe weather made it impossible for the railroads to maintain peak deliveries, averted serious crises, in February and March of this year, for instance, providing a flow of more than 500,000 barrels daily.

The barge movement, too, was an important factor in maintaining East Coast supply, last year accounting for as much as 150,000 barrels daily at times during the summer and even in the midst of last winter's severe weather moving 100,000 barrels.

Comment on the success of the industry in meeting the nation's war need was voiced by William R. Boyd, Jr., chairman of PIWC, and B. I. Graves, who succeeded W. Alton Jones as head of its supply and transportation committee.

"The potential decisiveness of petroleum was well recognized by the enemy powers and one of the first concerted blows against this nation was the submarine campaign designed to eliminate the peacetime ocean tanker petroleum supply line serving the Atlantic Seaboard states," Boyd pointed out. "Our shipping sustained some telling blows.

"Leaders in the industry were ready with plans for an overland petroleum transportation system which could defy the submarine, keep essential supplies flowing to the vital industrial East and make delivery of military requirements 2000 miles closer to Europe and at a point where the Navy could most effectively convoy these supplies to battle-front depots. That these plans were so successfully executed is a great tribute to the government - industry - military combination and is one of the best examples of coordinated effort which the war has produced."

"Graves paid tribute to the work accomplished by his predecessor who headed the supply and transportation committee during the early critical days of the war.

"Ample petroleum supplies were available in the southwest but transportation had to be provided." he explained. "Under the combined leadership of PAW and the Transportation and Pipeline Committee appointed by that authority and manned from the ranks of the petroleum industry, the eastern bottleneck was soon broken and in an unbelievably short period oil was flowing into the East in greater volume than had ever been required in prewar years.

"Naturally, this was the work of many and to all of them credit is due. However, I believe that a full measure of credit is due W. Alton Jones, who as the first chairman of the Transportation Committee and under whose leadership the construction of the pipelines was started.

"From the beginning of the planning stage and throughout the building and operating progress he was chairman of the Pipe Line Management Committee of PIWC, chairman of the Joint Pipe Line Managing Sub-Committee of PAW and president of War Emergency Pipelines, Inc., builders and operators of the 'Big Inch' pipe line systems."

Argentina to Get Fuel Oil For Its Linseed Products

Purchase of all of Argentina's 1945-46 exportable surplus of flaxseed and linseed oil and meal was announced by Foreign Economic Administrator Leo T. Crowley May 10. In return for the linseed products, it was said, Argentina will be provided with additional fuel oil. Quantities involved in the deal, negotiation of which was reported as under way several months ago, were not disclosed.

Since Argentina has been using linseed oil as fuel because of a petroleum shortage, the exchange is to be made on the basis of the relative heat-producing capacity of linseed products and fuel oil.

The trade was arranged by the U. S. Commercial Company, which will be the exclusive purchasing agent of the Argentina commodities for the United Nations and neutral countries.

Production of Items for Civilians Eased, More Gasoline Rations Seen

Relaxation of controls on the production of civilian goods will progress gradually during the war with Japan, but it will be a slow process and immediate emphasis will be placed on essential items, it was disclosed May 9 by War Mobilization Director Fred M. Vinson in a report to President Truman on Phase 2 of the war.

Most immediately, Vinson said, items needed in larger quantities include oil drilling equipment, locomotives and cars, and trucks.

During the next three months, he estimated, 2 to 3 million tons of steel, about 500 million pounds of copper and brass and around 150 million pounds of aluminum will be released for civilian production.

Vinson emphasized the rationing and price and wage control will have to be continued "as long as the war-created needs exist," and indicated that the immediate increase in gasoline rations would be only between 8 and 16 percent, to be divided among A and commercial drivers, with possibly a slight increase for B drivers who can show need. However, he said, "in view of the military need, restrictions will be continued for some time."

A few automobiles may be available in six to nine months, he predicted, but pent-up civilian demand will not be satisfied in less than three years.

In the case of home heating oil and kerosine, "the best we can hope for is that civilians will have as much as last year," the director said. But added that this hope "hinges upon the continued breaking of production records."

At PAW, Deputy Administrator Davies indicated that some time might elapse before higher gasoline rations were announced.

Davies disclosed that current East Coast stocks of gasoline are litle more than one third what was carried in inventory in May, 1941 and represents only 21 or 22 days supply at present rations demand. May 5 stocks, he said, were 8,565,000 barrels against 24,790,000 barrels the first week of May, 1941. Inventories increased during the week, he said, but the amount of increase was only slightly more than one day's demand.

Rail deliveries to District 1 increased 24,121 barrels daily over the preceding week, to average 536,152 barrels; boxcar shipments of kerosene in drums dropped nearly 2500 barrels a day to 14,767 barrels but both the big pipe lines operated at very high levels, the crude line delivering 332,356 barrels daily an increase of 29,246 barrels over the preceding week, and the products line 234,448 barrels, an increase of 2272 barrels.

Servicing Companies Get High-Temperature Powder

Release by Army ordnance officials of an estimated year's supply of high-temperature powder for use in gun-perforating well casing will permit the speedier and less hazardous completion of many deep wells. Deputy Administrator Davies disclosed that because of lack of satisfactory powder, gun perforating has been not only unsuccessful but in many instances actually destructive in deep high-temperature wells, particularly in the Gulf Coast region.

"Powders previously used in gun perforating casing were able to service wells successfully in which the temperature was less than 305° F.," Davies explained. "When higher temperatures have been encountered in recent deeper drilling (generally below 8000 feet), powder charges exploded prematurely and wells often were damaged or lost entirely."

Davies disclosed that at the request of PAW, with the approval of WPB, the Chief of Army Ordnance authorized the sale of 1000 pounds of the powder to Defense Supplies Corporation for distribution to three companies offering gun perforating services. It is estimated that this will be a year's supply.

Gulf Starts Geophysical Surveys in Alberta

Gulf Research and Development Company has one seismograph and one gravimeter party at work mapping the company's huge block in southwestern Alberta, extending from Pincher Creek eastward and including a large part of the Blood Indian Reservation.

Zook Urges Return of Oil Production Questionnaire

Oil producers are being urged by Ralph T. Zook, IPAA president, to complete the cost-of-production questionnaire which has been sent out by OPA.

"Nearly 700 oil producers have received the questionnaire and the returns up to now have been meager," Zook said. "The final date for returning these is June 1."

Should any substantial part of the 700 producers fail to file the completed form, no matter what the reason, some of the government agency officials will be certain to construe this as a lack of interest and an indication that the producer is satisfied with his present condition and prospects for the future, Zook explained.

"The present course of the domestic producer of oil is toward involuntary liquidation because no provision is being made to allow the income necessary to 'restock his shelves' by replenishing the reserves he is now using."

Attention was called to the fact that assistance of auditors has been offered in letters sent to all who are on the OPA list to receive the form.

New Gas Pipe Line in Corpus Christi Section

Construction of a 38-mile natural gas pipe line from fields east of Alice, Jim Wells County, Texas, to Corpus Christi, has been announced by Houston Natural Gas Corporation.

The line will consist of 8-inch and 12¾-inch pipe and will cost approximately $750,000. Contract awards will be made within the next few days. Pipe is reported to have been delivered.

This new line will serve both industrial and residential outlets.

Two-Front War Demands High

Texas next month will be asked to produce 1000 barrels of natural gasoline a day more than at present, but its crude production level will remain unchanged at 2,170,000 barrels daily, it was announced May 11, by Deputy Administrator Davies.

The production rate of the state for all petroleum liquids, Davies said has been placed at 2,333,000 barrels a day, of which 163,000 barrels will be natural gasoline.

West Texas is still to produce 483,000 barrels daily, and PAW wants production in the East Texas field to continue at the same rate.

The Texas certification indicated that the shift from a two-front to a one-front war will not immediately reduce military requirements for petroleum products and Davies explained that "future military requirements in the Pacific theatre for some petroleum products, particularly distillates and fuel oil, are expected to be even higher than those requirements have been for carrying on a two-front war.

"It is necessary, therefore, that refinery facilities be operated to produce maximum quantities of war products so that they will be available to supply both current and future military requirements. Thus, crude oil production must be maintained at current high levels to furnish the supply of oil needed, since crude oil stocks have been reduced to practically minimum working levels."

Resolution on Drilling Option to Be Pushed; Court Denies Rehearing Plea

Refusal of the Fifth Circuit Court of Appeals to rehear the F.H.E. case, even though limiting the scope of the original decision to the particular issue involved, has not served to correct the situation and efforts will continue for enactment of a congressional expression upon the intangible drilling cost option, it was declared last week by J. C. Hunter and Russell B. Brown, co-chairmen of the General Depletion Committee.

"After a careful study of the opinion and all of the implications involved in the effort to correct the effects of the original opinion in this case, we feel that the substitute opinion does not fully correct the situation resulting from the original opinion and that legislative action is essential to restore the confidence so greatly needed in the industry," they said in a joint statement.

"Concurrent resolution 50 is now pending before the Ways and Means Committee. No hearing or action on this resolution is likely before the committee disposes of the pending proposal to extend the trade agreement authority on which it is now holding hearings."

Brown pointed out that the option has been covered in Internal Revenue regulations for more than 25 years, with the F.H.E. case the first in which it has been disturbed.

Option Long Recognized

"The Circuit Court of Appeals and the Supreme Court have had occasion to consider the regulation in more than a dozen cases and have directly or inferentially approved the validity of the regulation," he said. "Congress has enacted and reenacted the revenue laws since 1918 without substantial change of the provisions of section 23. In 1940 the excess profits tax was made a part of the income tax laws and by section 711 Congress expressly recognized the option of the taxpayer to treat intangible drilling and development costs as an expense. In 1942 representatives of the Treasury advised Congress that the regulation had by long usage become embedded in the statute, and urged enactment of language that would change the regulation. This Congress refused to do.

"In 1944 the industry drilled 22,477 wells, including 3881 exploratory wells and 18,586 development wells. PAW estimates that 27,000 additional wells in 1945 will be necessary to maintain our necessary production. Abolition of the producer's right to charge intangible drilling cost to the expense of finding and producing oil and gas and requiring such cost to be capitalized would, according to estimates of the industry, reduce exploratory wells by one third and development wells by two thirds, and would have a similar continuing effect."

The court at New Orleans in denying motion for rehearing of the F.H.E. Oil Company case affirmed its judgment of March 6 which upheld both the Commissioner of Internal Revenue and decision of the Tax Court of the United States, Texas district.

The Circuit Court said the question to be decided was, "whether one who does not own an oil property and who agrees to make a well to obtain an interest in it . . . or as in this case, who has an interest for a few days only unless he makes a well, and makes it in order to enlarge and extend his temporary interest, thereby makes a capital investment which cannot be a mere business expense under the statute.

"The answer is in both cases, yes. He is putting out his money to acquire property, and acquires it."

The Tax Court upheld the commissioner, but a minority of four Tax Court judges dissented. The minority judges agreed with the majority that drilling costs were capital expenditures, but expressed the opinion that the tax regulations "clearly gave the taxpayers" the option of deducting from gross expenses.

Record Peak Production Second Successive Week

United States crude oil production set a new all-time record in the week ended May 12, having averaged 4,860,340 barrels daily. This amount was approximately 35,000 barrels a day more than output in the previous week and reflected the full effect of increased allowables for this month.

Texas production averaged 2,186,100 barrels daily, up about 16,000 from the week before. California averaged 922,200 a day, up about 4000, and Kansas 270,900 daily, an increase of over 17,000.

Louisiana rose about 4000 to 370,750 daily. Oklahoma was up nominally at 385,150 barrels daily. Illinois averaged 195,800, virtually unchanged; Mississippi 54,250 daily; New Mexico 104,750, down a little; and Wyoming 107,750 barrels per day, a small increase.

Crude Oil Production in the United States

(Estimates compiled by The OIL WEEKLY. All figures indicate daily averages, in barrels.)

STATE OR DISTRICT	PRODUCTION IN WEEK ENDED May 12	May 5
Alabama	400	500
Arkansas	79,800	79,800
California	922,200	918,500
Colorado	11,000	10,250
Florida	15	15
Illinois	195,800	195,200
Indiana	11,450	11,650
Kansas	270,900	253,150
Kentucky	27,700	27,600
Louisiana	370,750	366,300
North Louisiana	71,000	71,300
South Louisiana	299,750	295,000
Michigan	45,750	48,000
Mississippi	54,250	54,900
Missouri	100	100
Montana	21,840	26,405
Nebraska	900	900
New Mexico	104,750	105,650
New York	13,300	13,350
Ohio	6,700	6,750
Oklahoma	385,150	384,350
Pennsylvania	35,600	35,800
Tennessee	35	35
Texas	2,186,100	2,170,300
Upper Gulf Coast	563,250	565,200
East Texas Field	379,800	378,000
Rest of Eastern Texas	138,250	145,500
Lower Gulf Coast	262,450	249,750
Southwest Texas	81,900	81,400
South Central Texas	21,250	21,000
West Texas	495,200	489,450
North Texas	154,000	150,050
Panhandle	90,000	89,950
West Virginia	8,100	8,150
Wyoming	107,750	106,900
Total United States	*4,860,340	4,824,555

* New all time peak.

BUREAU OF MINES REPORT

Total stocks, foreign and domestic, May 5, as reported by the Bureau of Mines were: 221,019,000 barrels with a daily average production of 4,839,000; and runs to stills 4,786,000.

Texas Legislature Passes No Measures Affecting Oil

The Texas Legislature was approaching close of its session last week and no tax bills or other punitive measures had been passed which might plague the oil industry. Neither had the body approved measures that might help.

The House had killed the "trial de novo" bill, which was intended to reduce to some extent the importance of hearings before Texas Railroad Commission. Sponsors of the measure contended that it would give litigants a fair opportunity to begin all over again in court and present whatever evidence they chose when attacking orders of state boards. Since it was directed primarily to orders of the Railroad Commission, the oil and gas industry might have been helped had the bill passed.

Meanwhile, in the Senate one important oil bill was up when it adjourned for the weekend. This is the measure to extend the period of leases on submerged lands which the state owns. These leases now are for a 25-year term and at the conclusion of the term, revert to the state whether an operator has recovered his oil or not. The purpose of the bill was to extend the life of the leases to the life of production, as is commonly provided in leases negotiated between private parties.

Proration now may prevent an operator from recovering all oil he has discovered within 25 years; thus, proponents argued that the regulations of a state board operated to prevent fulfillment of the lease requirement. Opponents expressed the opinion that the net results would be to give extension to leases and that no money would be forthcoming to pay for the extension. They thought that operators who purchased these properties, especially in the last few years, should have recognized the limitations provided by proration and laid their plans accordingly.

The legislature is expected to adjourn May 25.

Cycling and Pressure-Maintenance to Be Required Despite No New Texas Statute

A new order promulgated by the Texas Railroad Commission relating to the Agua Dulce field, Nueces County, Texas, indicates definitely that the failure of the Texas Legislature to enact new conservation statutes will not stop the regulatory body from acting to require cycling or pressure-maintenance where, in its opinion, such action is necessary for the prevention of waste.

The order resulted from a hearing on January 17, at which time Union Producing Company sought to have exempted from pressure-maintenance orders, two sands under its leases in the Agua Dulce field, asserting that they had been cycled until the recovery was too lean to justify such operations.

The commission found that the Bentonville sand, one of the bodies in question, had been cycled until recovery was only 0.3 gallon of fluid per thousand feet of gas processed, and that injection of gas into the reservoir had been discontinued in April, 1944. Gas from this sand was exempted by the new order.

It also was found that the "B" sand reservoir in the Comstock may be presumed to be 95 percent cycled and was consequently exempted from pressure-maintenance. However, reservoir data on the Comstock "A" sand, which extends beyond the limits of Union's properties, indicated by a pronounced differential in pressures, that there is a definite separation between the northern and southern segments or lobes, existing as a shale barrier or a lack of porosity in the sand. Although recoveries of less than 0.3 gallon per thousand feet of gas show that both segments are believed to be 90 to 95 percent cycled, it was thought that retrograde loss would occur in the north segment unless reservoir pressure is maintained. Therefore, while the southern segment was exempted from the order, the commission ordered that injection into the northern segment, which had been discontinued in February of 1943, be continued to prevent the loss of hydrocarbons in the reservoir through retrograde condensation.

Thus, it appears that pressure maintenance will be required in those reservoirs which contain sufficient liquids to justify the cost, provided that in the opinion of commission engineers the liquids in the reservoirs will be lost through retrograde condensation unless they are recovered through pressure-maintenance operation.

Some attorneys contend the commission had authority to follow this procedure while others argued that this was beyond the authority of the commission because it entered the field of economics. The latter agrument is subject to question as regulations in the past have invariably involved economics where the installation of equipment was required.

Such practice has progressed from the original orders requiring spacing of wells at minimum distances apart, to requirements as to installation of tubing, size of which is specified; later to requirements for installation of separators and separate tank batteries to serve separate reservoirs; and to requirements for installation of meters to determine actual withdrawals from separate reservoirs.

Paper Work Reduced for Foreign Oil Projects

Foreign Economic Administration has announced that submission of the Materials Requirements List is no longer necessary as a supporting document for SP (special) license or amendment applications covering materials for foreign petroleum projects having a total materials cost of more than $25,000 for any one complete operation, since Form WPB-3649.1 (application for authority to acquire materials for foreign petroleum projects) contains the necessary information.

The use of form WPB-743-C (interim application for assistance under the foreign petroleum industry material plan) has been discontinued, and form WPB-743 (application for assistance under foreign petroleum industry material plan) is now used both for basic and for interim or supplementary applications.

Sollenberger Is Succeeded By Mundy at Creole Post

E. J. Mundy, Jr., has been elected secretary and assistant treasurer of Creole Petroleum Corporation, succeeding W. S. Sollenberger, who resigned to join the producing department of Standard Oil Company (New Jersey).

Mundy joined Standard Oil Company of New Jersey in 1920 in its foreign sales department and later went into the coordination department where he remained until transferred to the producing department in 1943. He joined Creole last July 1 as statistician and budget analyst. He has been secretary of the producing subcommittee of PAW's Caribbean Area Petroleum Committee since early in 1943.

Sollenberger joined the Jersey company interests in 1926 in Mexico City where he was employed by Cia. Transcontinental de Petroleo, S. A. Subsequently he became vice-president of Huasteca Petroleum Company. He remained in Mexico until elected secretary of Creole last July.

Barinas Wildcat Testing

Socony-Vacuum Oil Company reported on May 2 that its San Vicente wildcat, first test in the Apure basin in Venezuela, had been drilled to 7082 feet and was being prepared for testing. The well is in Barinas, on the north side of the Apure River, and is approximately midway between San Fernando de Apure and San Cristobal.

Price and Special Qualities Bases For Postwar Synthetic Rubber Market

Broad postwar markets for synthetic rubber, in some instances dependent upon costs and in others upon the respective qualities of the natural and synthetic product, is foreseen for synthetic rubber in a study released by the Senate Military Affairs Sub-Committee on War Mobilization May 12.

Listing 1471 technological developments made under the pressure of war in 1942 and 1945 (a similar list is being prepared for 1944), the study showed that 14 of them were in the field of petroleum and 34 in the field of rubber.

Outstanding developments of the war were in the field of aviation gasoline and synthetic rubber. But the postwar market is a problem only in the case of the latter.

Developed during a period when requirements for rubber were greater than those of peacetime, the Labor Department experts who prepared the study for the sub-committee, saw it unlikely that all existing facilities can remain in operation when natural rubber again becomes available in quantity.

However, it was felt, the price difference between natural rubber and the various synthetics will probably be narrowed, and improvements will be made in the quality of the latter. Synthetic-rubber products of high quality at prices equal to or less than those for natural rubber items "for certain purposes, as where high resistance to deterioration by petroleum derivatives or to extremes of temperature is required," it was suggested. "Appropriate types of synthetic doubtless will be used, irrespective of the price of natural rubber. Moreover, world supplies of natural rubber will not be overplentiful for several years after the war because of damage to plantations in the Far East and because demand will be at a high level, in any case, it may be national policy to provide a measure of self-sufficiency in rubber through tariffs, direct subsidies, or the maintenance of plants in stand-by status.

"It seems justifiable to conclude that some synthetic-rubber plants will be maintained in operation after the war (some authorities judge from one fourth to one half of total war capacity) and that synthetic rubber will be increasingly used to replace or supplement natural rubber."

SIMPLICITY IS THE FIRST REQUISITE OF SAFETY

One quickly forgets that a problem solved was ever a problem!

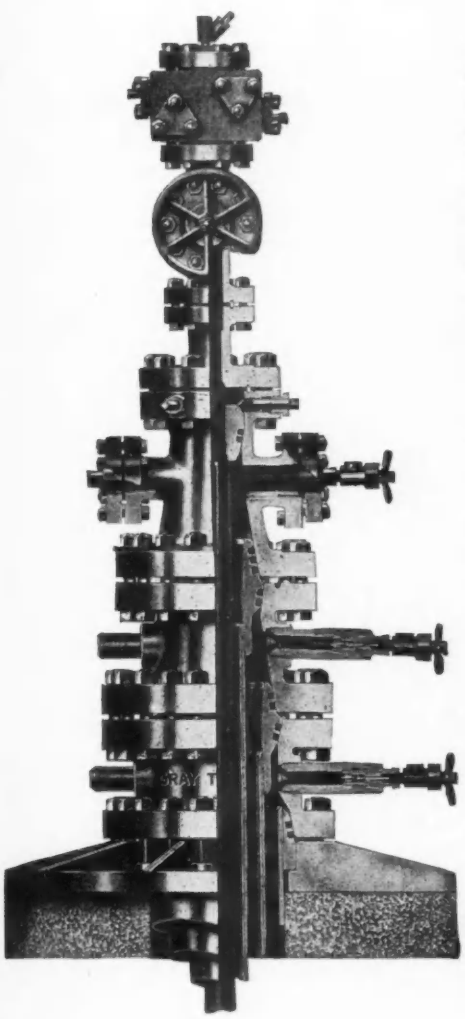


FIGURE 1A

Complete Well Head Assembly equipped with Composite Manifold, Valve Removal, Installation and Removal.

In Gray's studies toward the improvement of systems of well control, the first premise in the problem as we analyzed it has been simplification—the elimination of a part or provision for its removal after it has completed its full operating function. We have not compromised our efforts to simplify, even though the removal of each part that has been found unnecessary in the design has to that degree reduced the number of products that we are in a position to sell. Because one so quickly forgets that a problem solved was ever a problem, we enumerate some of the results obtained and contributed by Gray Tool Company.

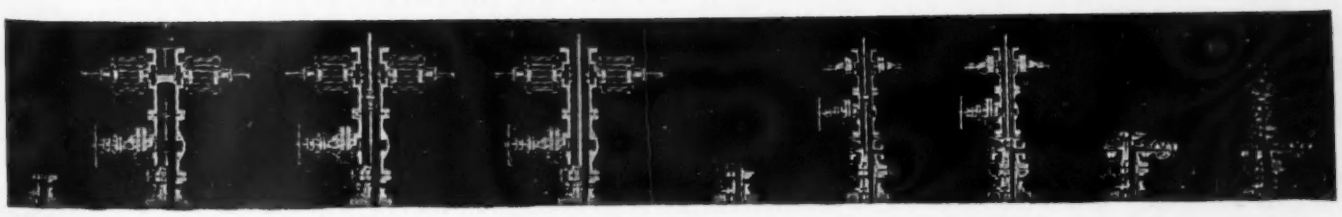
1. Through contributing a way to safely assemble and disassemble equipment over an unquenchable source of pressure while maintaining either or both mechanical and/or weighted mud control, master valves, blowout preventers, strippers, etc., have been made removable from the completed well head assembly after they have performed their full function, with resultant simplification of the manifold left on the well during its flowing life.
2. Valve Installation, Removal and Reinstallation Under Equalized Pressure has made possible the removal of many valuable pieces of equipment that in the past were necessarily attached to the only well on which they had ever been used, rusting away.
3. The Gray Boll Weevil combination casing hanger and seal is as simple as putting a stopper in the top of a bottle. In cases where master valves and blowout preventers have failed, this hanger seal has been lowered into its tapered seat in the tubing head, completely plugging the top of the well and permitting repairs to the worn or defective equipment.
4. Simplification through the reduction of pressure subject areas, decreasing strains, and permitting the use of less material and smaller sized valves, fittings and other accessory equipment.
5. Simplification through the minimizing of lever arms, leaving out of designs elements that increase the load.

The whole is greater than any of its parts. These are some of the problems solved which are no longer problems!

THE WHOLE IS GREATER THAN ANY OF ITS PARTS

GRAY
TOOL COMPANY
HOUSTON

West Coast Distributor: WAGNER-MOREHOUSE, INC., Los Angeles. *Export Representative:* GUY E. DANIELS, 30 Rockefeller Plaza, New York City



Casing Head Attached | Drilling | Running Casing | Casing Landed | Drilling Control Equipment Removed | Drilling-in and Running Tubing | Tubing Landed | Control Equipment Removed | Manifold Attached

Standardized Rig Layout Design Saves Materials, Time and Space

By ELTON STERRETT, Staff Writer

Straight-line setting of boiler fronts, mud pumps and derrick is apparent from this view, taken from the top of the spoil pipe formed when the boiler-water pit was dug. It is only 150 feet from the transverse center line of the boiler battery to the well bore, requiring a minimum of piping to carry steam, mud and water from the pumps in the foreground to the points of utilization on the rig.

Steam, mud and water lines are laid parallel across the strip between pump skids and derrick foundation. Cut to a predetermined, standard length, and provided with bolt-type unions in place of collars, the piping may all be connected and working pressures established without requiring the services of a welder and without the need for extra materials to be used in making an on-the-job approximation which—unlike the standardized units—would not serve on the next location.

Engineered placing of boilers, pits, pumps and ramp in relation to derrick eliminates need of welding at the new location and requires a minimum of piping and ditching

ONE of the problems met by the drilling contractor, especially when the wildcat project comes in dry, is the job of restoring the land temporarily devoted to drilling operations to its "previous condition of tillability" as provided in the contract. Any layout of the derrick and its equipment which will save any part of the land normally laid aside for use during the drilling campaign is thus at a premium; this value being relative and dependent upon the use of the land under agricultural conditions.

When a compacting of the entire rig setting not only brings about a reduction in piping and other equipment required, and at the same time eliminates the need for a welder on the job during rigging up and tearing down, the gain is augmented and the value of the engineering of the set-up increased.

Money-Saver

One such standardization of the steam rig, for normal deep-drilling, as worked out by Rowan Drilling Company, cut the acreage required for all units from the usual 3.5 acres to 2.8, or a reduction of 20 percent in the amount of land to be restored after moving off. The planned setup also eliminated all need for the welder at the rig, amounting to a saving of up to $1000 per move over the type of job where all pipe was cut and welded to fit the individual layout as developed, on the spot, for the move.

Since an access is of prime importance, this compact setup is designed with the road as a basic or reference guide. As shown in the accompanying diagrammatic layout of the standardized rig setting, the access roadway forms one

side of the setting, with only the turnaround and pipe racks for tubing and casing extending across the road. Forming one boundary of the plan, access may be in on the road in either direction, with a supplementary turnaround at the boiler setting when traffic enters between pipe ramps. In either case, the relative positions of all units remains unchanged, so that all connection and tear-down jobs are exactly alike.

Working from the centerline of the derrick, the boiler battery transverse center line is 150 feet to the left of the well site, as shown on the sketch. The roadway passes close to the smoke-box ends of the boiler battery, with only the necessary clearance to prevent damage from improperly placed load on the trucks passing the steam generating units. The extreme edge of the boiler setting falls within the 92-foot dimension between well bore and nearer side of the roadway.

Less Labor

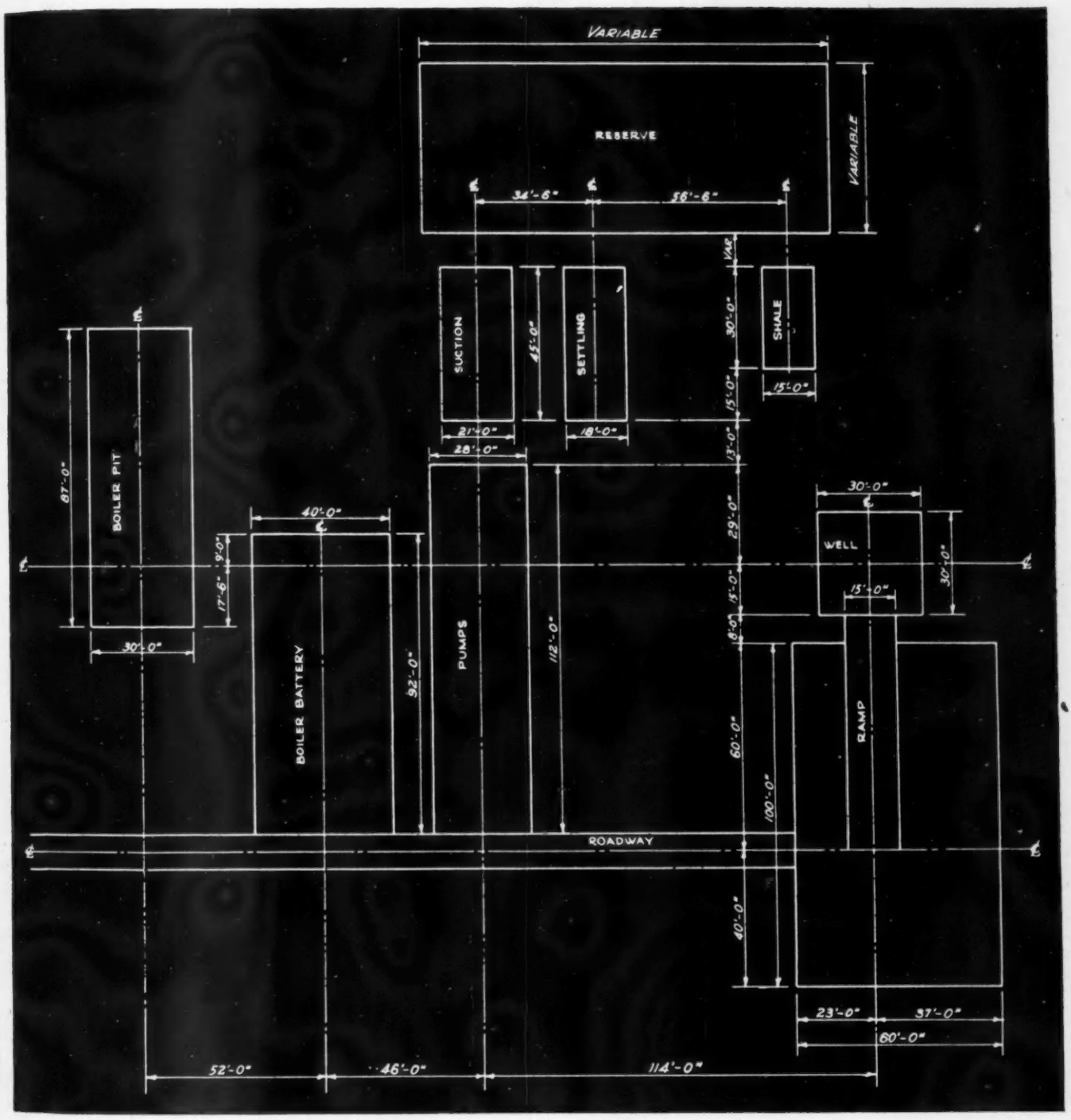
Between the boiler battery and the well, and with only narrow walkway between, are ranged, in order, the mud materials storage house, the mixer, and then the pumps, the whole setup requiring only 112 feet from the edge of the road. Location of the materials storage house abutting on the road reduces to a minimum the handling of the bags of material from truck to stockpile.

The wire-line coring reel and integrally-connected engine drive are set opposite the mud-pump house, with the line carried directly over the lay-down walk and into the derrick.

Steam Piping

The usual overhead collecting main connects the four boilers, the line descending to ground level beyond the boiler farthest from the rig. Passing along this boiler, the steam line incorporates, in turn, a swivel connection, a sweep ell, a main steam-line valve, and an expansion joint which compensates for any slight variation between sheam header and the spotting of the boiler feed-water pump skid. Turning through 90 degrees at the skid, the line runs directly to the farther side of the derrick, where it turns again to enter the steam separator, set in the substructure directly below a riser to the throttle on the drilling engine.

The one main steam line branches for each of the three mud pumps, in addition to such auxiliaries as the air compressor (for flowing the water well) and for the rig lighting generators. Just beyond the edge of the mud-pump shelter



The steam line is equipped to meet slight variation in centerline distances between pump skids and derrick by installation of this expansion joint, with a 24-inch working range. When the line is laid, cold, the pressure absorbing chain is hooked tight between the two eyes welded on either side of the packing box on the joint. Any expansion of the line is then toward the joint, tending to run slack into the chain, while the links prevent the joint being blocked open by pressure in case the line should buckle or shift in service.

is installed a second expansion joint with a 24-inch compensation. This unit takes up any slight variation in relative positions of derrick and pump setting, and avoids unnecessary juggling of units to obtain exact spotting; it also, of course, absorbs any changes in steam line length due to expansion when carrying live steam.

Working lines, such as those from the steam distribution main to the shale jet and to the floor for steam cleaning, are controlled by valves set close to the main, and with extension handles carried to derrick floor level to minimize the steps necessary to put either into operation.

Mud Handling

The suction pit, 21 x 45 feet in area, is placed 13 feet beyond the end of the pump setting, with all three suctions spaced across the end of the pit. The high-pressure mud line, paralleling the steam main to the derrick, is carried on the same blocking and, like the steam unit, is unitized with quick-action unions so that it may be strung rapidly and with a minimum amount of labor. The mud line, carried to the far corner of the derrick, has a swing at that point to bring it over the sill and point it to the place where it rises to form the standpipe. Due to the swing in this line and the relatively uniform temperatures of the mud stream throughout the drilling campaign, this line does not require expansion joints. Any slight variation in centerline distances is taken up by the thrust blocking at the derrick end of the line, where the swing is installed.

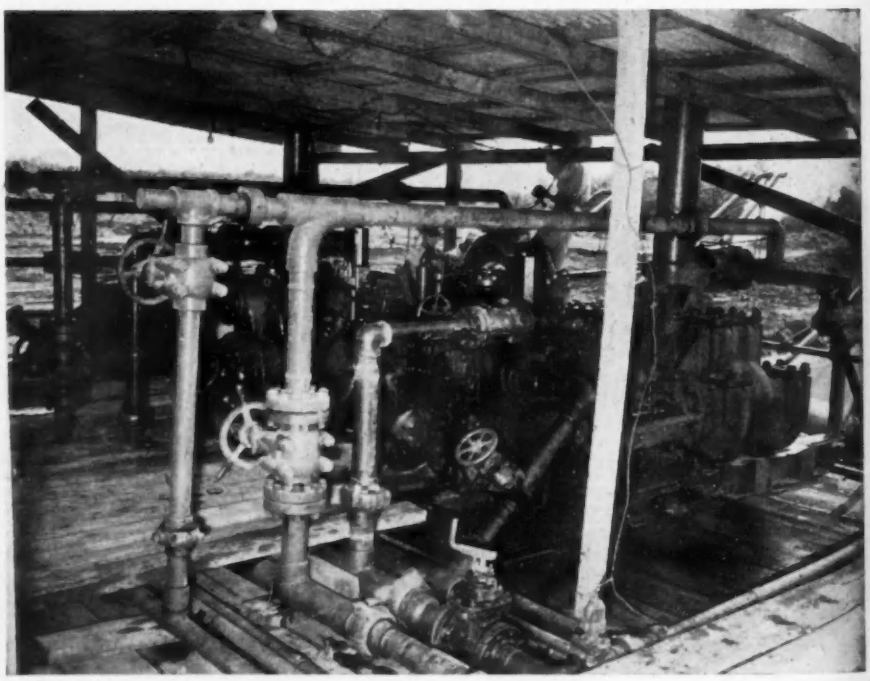
From the well the mud flows into a flume where chemicals and dilution water are added, thence over a shale shaker. Shale is accumulated in a 15 x 30-foot pit beyond the shaker, with a jet to carry spoil across the dike into the main shale pit. Set athwart the shaker skid is a wooden flume which carries the mud stream parallel to the roadway, the flow being directed through a short ditch into the nearer end of the settling pit. This unit, 18 x 45 feet, is separated from the mud suction pit by an earth berm 15 feet in width. Steam-powered jets permit removal of part or all of the contents of either pit into corresponding sections of the three-part general storage or reserve pit which represents the outpost of the layout farthest from the roadway.

Mud Flow

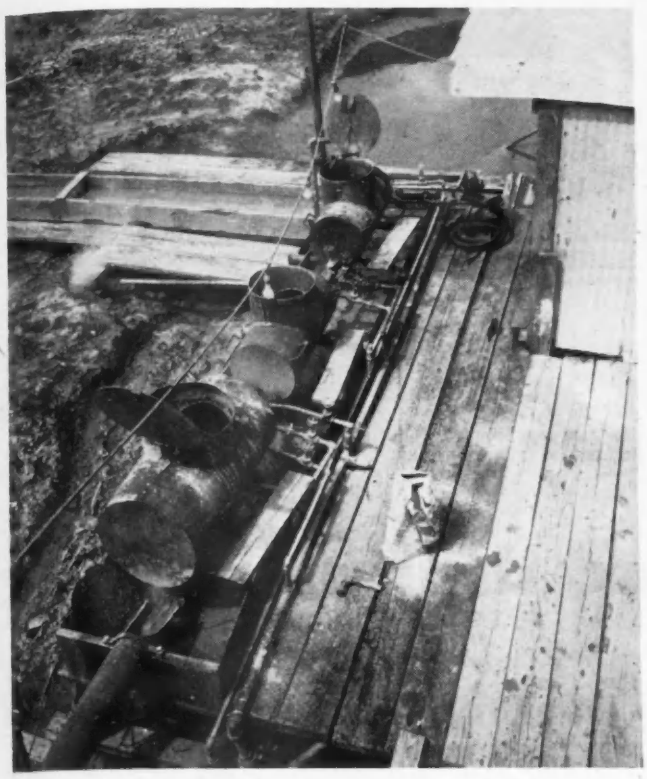
Mud flow is through the length of the settling pit, across the separation dike through a narrow ditch, and into the end of the suction pit farthest removed from the pump suctions.

Set on, and largely protecting from erosion, the earth berm between the two mud pits is the heavy welded skid in which much of the rig piping is handled when on the move. One side of this skid is welded up so that mud, brought to the unit by a branch from the main mud system, is delivered to any of the jets mounted on the skid and supported against overturning by being carried through the 4-inch upper rail.

The other side of the skid is so interconnected that live steam, brought in through a branch paralleling that carrying mud, provides distribution to the jets used for clearing either pit. Quarter-



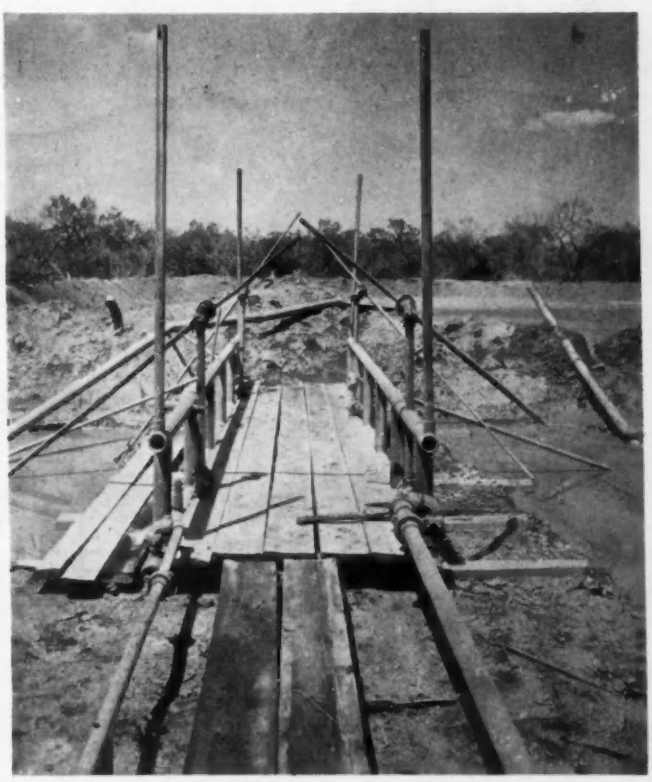
The mud pump set-up. In the foreground appear the closely paralleling steam and mud lines, with some of the bolt-type unions which permit sectionalizing the line for stowage and hauling. All pipes are covered by a wooden flooring which affords smooth surface for the crewmen while tending the pumps, and which, by reason of the setting, provides ample ventilation for live and exhaust steam lines. These latter are carried in open saddles, formed from split rings of pipe, which radiate heat sufficiently to prevent charring of the wood sills beneath them.



Mud from the well is discharged into this steel flume, which retards flow enough to prevent slugging on the screen and also allows thorough conditioning by chemicals fed from one or more of the three drums straddling the flume. The wooden flume at right angles to the steel ditch beyond the third drum carries the clean mud from below the shale shaker to the settling pit. The flume continues the aeration and degasifying of the stream begun in the foreground.

From the end of the flume the mud flows across a short expanse of ground through a ditch which completes aeration of the stream as it enters the settling pit. The two-plank walkway along the mud ditch provides safe footing for the crewman as he clears the ditch of encrustations or trash.

Arrangement of the reserve pit into three parts puts the shale disposal pit at the right, the general mud storage pit in the center, and the active reserve pit at the left of the space enclosed by the big dike. The cloud of steam at the extreme left is the blow from the end of the boiler blow-down line. Fixed distances between pits and storage enables the jets and connections to be standardized so as to require only the placing of the suctions and connecting the steam line unions to ready them for use.



Set on the 15-foot berm separating settling and suction pits, this skid serves as manifold for mud supply to the various jets, the line on the right being tied in to the delivery line to the derrick; while the smaller line on the left delivers live steam to the network on inter-connected pipe in the skid framework which is tied in to the various jets which actuate the lifts serving to transfer mud from either pit to the corresponding section of the general reserve pits behind the dike.

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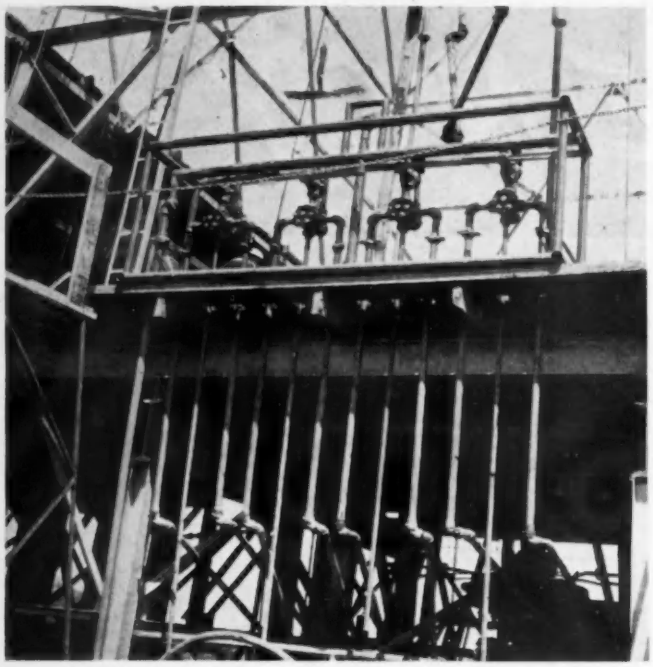
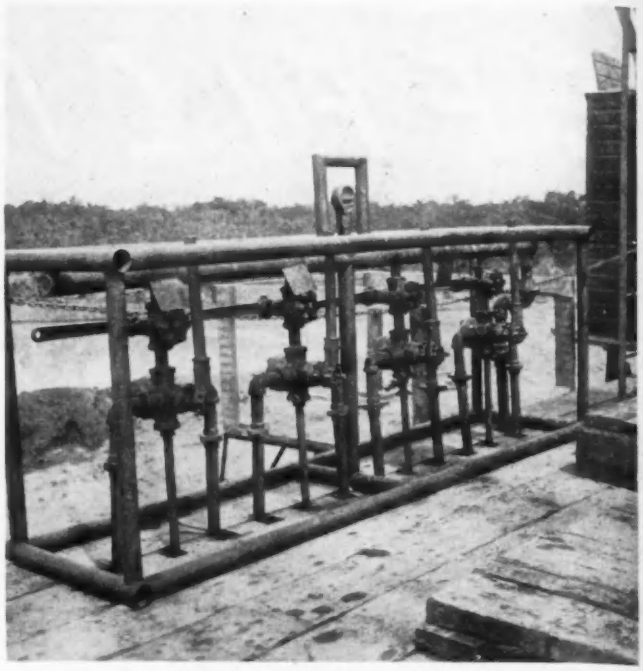
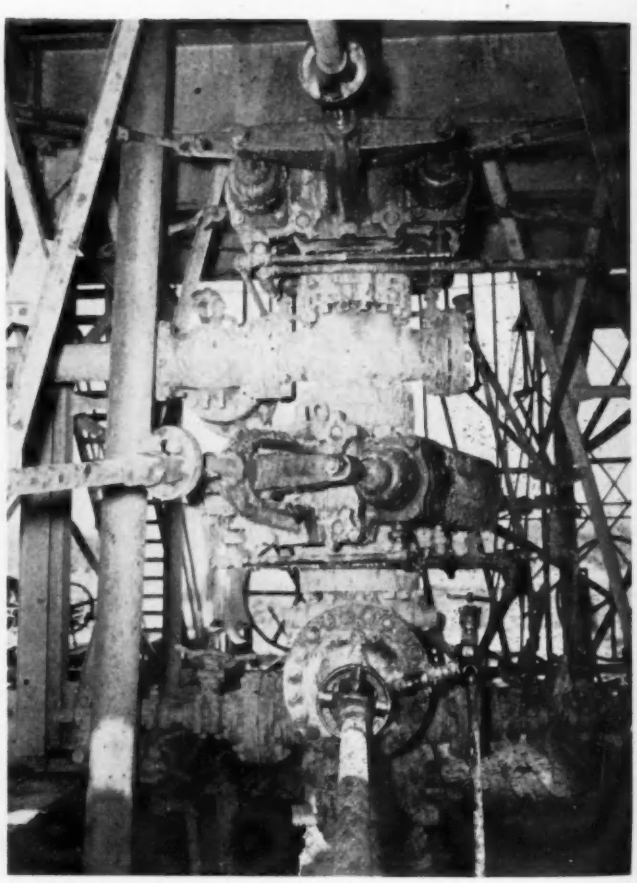


All pressure and waste lines on the B.O.P. controls are carried directly down outside the derrick structure, weight of the entire set-up being carried by the horizontal pressure main, which is welded to the frame at the ends and supported by a post directly below the gauge. Instead of ells, swing joints are used for direction changes.



Control of the entire blow-out preventer set up is centralized in this panel. Pressure, carried constantly on the horizontal main just below the top frame member, is controlled by the block gate—handle horizontal—on each line, while the lower valve controls admission and release of pressure to each of the units. A mud-pressure gauge, easily read from any place on the working floor, is set atop the pressure line and protected against damage by a welded shield of pipe.

A second set of swing joints is built into each line close to the connection to the B.O.P. This construction absorbs all vibration and expansion change, protecting both control manifold and B.O.P. fittings from over-stressing. When dismantling, the swing-jointed lines "fold up like a pocket rule" and are easily stowed and transported. The double swing takes up any differences in distance between control and preventers on successive wells.



A slight variation in the make-up of the blow-out prevention string offsets the lower unit—set below the spool for the mud flow line connection—by two bolt holes from the normal in-line setting. The upper preventer is then aligned with the base units in the conventional manner. This construction enables the catline to be used for changing either set of rams without interference from other equipment, simplifying and speeding this operation.

turn valves, set near the floor line of each distribution system, provide against leakage and give necessary control of jetting and steam for mud handling.

Shelter Provided

Each of the four corner posts of the skids carries a collar set vertically. Into these are screwed pipe posts, slotted at the top, on which may be rigged when desired a shelter which will protect the entire setup, pits included, from dilution by rain.

The boiler water pit is set as close as possible to the boiler feed-water heater, with flow from the well into the end farthest from the suction, so as to allow separation of all the entrained air from the blowing operation before the water is taken up for heating and pumping into the boilers.

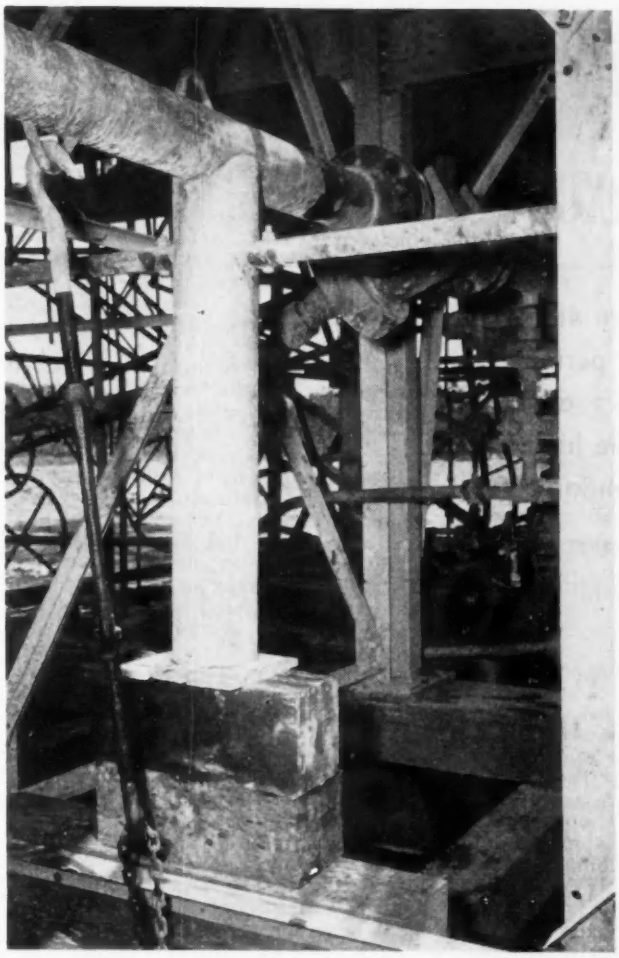
As the roadway passes directly in front of the smoke-box ends of the boilers, the usual method of extending the blow-down lines straight out from the boilers is not practicable. Instead, an ingenious disposal system is provided which, incidentally, also saves several hundred feet of pipe. The usual dual valve control for blow-down is provided, the line extending some two feet beyond the second valve, then having an ell, a 30-inch run, a swing, another ell, and a nipple, union and short section of pipe tying into the blow-down header. This header serves a dual purpose. The fire-box end of the boilers is carried on a through support, consisting of three joints of pipe pyramided, the topmost being of drill stem and with a seal plug in one end, an ell at the other. All four blow-down lines, after the complete reversal of direction indicated, are tied into this line, which is extended from the last ell out to a position between the dike forming one end of the reserve pit and the water-well site. The area into which the blow-down line exhausts is enclosed with a low dike, behind which the condensation collects, to find its way eventually into the boiler-water pit.

Space between boiler-water pit and mud suction pit is utilized for such accessories as the air compressor, the washer for steaming out rig working clothes, and the scrap collection bin—into which goes all metal parts broken or damaged beyond repair.

Adaptable Layout

The layout is designed so that each truckload of equipment, incoming, may be stopped on the roadway directly in front of the site where it is to be installed. In the case of the mud pumps, they are placed by backing over the site later occupied by the mud materials storage house which, in swampy locations, is set on the timber mats earlier serving as roadway for bringing in the equipment.

This standardized layout is adaptable alike to swampy marshland or rice-field locations, or to rolling hill country, and may be faced to bring prevailing winds as desired across the rig, or otherwise oriented as necessary, simply by laying out the roadway as desired, and bringing traffic onto this defining area by means of a turn of whatever degree necessary at the end of the road tying in to the nearest public highway.



The mud line is supported as it leaves the sub-structure on a sturdy pipe post, formed to fit closely around the line at the top, and with the bottom blanked off with a welded disk to distribute the load. Braces of 2½-inch pipe, bolted to sockets welded on the support post, fit snugly against the adjacent sub-structure uprights, while a heavy hook and turnbuckle, chained to the sill, provide the necessary tension to snub virbation.

Blow-off piping on a boiler, showing the dual valve portection, unions, swing and connection to the through manifold forming the top of the boiler fire-box support. When blowing down a boiler, the valve is opened gradually, to prevent sudden rush of water and steam against the abrupt changes in direction of line. Use of this hook-up avoids stringing long pipe lines out across the site to a safe disposal point beyond the boiler smoke-box area.

Victory Won't Abolish Taxes

U. S. spending to drop gradually over period of several years and even then will be high by prewar standards

By L. J. LOGAN, Associate Editor

AS INDIVIDUALS or as sole or part owners of business enterprises Americans must face the fact that paying for the war and its aftermath will be a hard, American-sized job. No true American regrets basically the bargain by which we have gone desperately in debt to hold on to our omniprecious liberty, borrowing by the tens of billions against our bank accounts, life insurance funds, and indirectly our homes and all else that we possess and hope to earn. Our liberty, as a nation and as individuals, is well worth the price, high as it will be, in American lives and American money.

But in handling the enormous debt, heretofore assumed and still being increased, there can be no early loosening up of the belt. Very high taxes must continue to be collected from individuals as well as corporations at least for several more years, and even thereafter it will be necessary that taxes in the aggregate be at least three to five times as high as before the war merely to have the government's income equaling its expenditures, not to mention any progress that may be undertaken in cutting down the national debt. Merely for "normal" expense after the war, as now forecast, the public treasury will have to take in one half to three fourths as much as it now is doing, under high wartime employment and incomes.

Future Spending

Compared with the prewar spending of about 6 billion dollars a year, even the more conservative economists expect "normal" expenditures after the war to be 18 or 20 billions, and some realistic private analysts look for 25 to 30 billions a year, representing 55 to 75 percent of the revenue currently being brought in under existing steep taxes on income. (Some congressmen familiar with the present administration's spending plans warn that 25 or 30 billions will fall far short of projected "normal" outlay, and that 50 billion a year would be more accurate.) Some of the items which might be involved include: 10 billion dollars for Army, Navy, and possible compulsory military training, 8 billion or more for veterans' benefits, 5 or 10 billions (more or less) for "full" employment and social security, 6 billions or more for "regular" functions of government, including conversion of some war-emergency agencies to permanent peacetime basis. On top of these new-order "normal" expenses will be large-scale outlays in financing lending activities, international and domestic, through the Export-Import Bank, Reconstruction Finance Corporation, Commodity Credit Corporation, Rural Electrification Administration, Federal Housing Administration, and other government-run corporations, all of which seek to expand in aggregate amount involving billions of dollars.

The postwar spending here discussed has reference to the "normal" to which government outlays may be expected to be reduced only by stages in the 3 or 4 years after victory in Europe. On the basis of calculations of high government executives and military leaders it was estimated that expenditures would hold steady at almost 100 billion dollars annually until Germany fell and that they will still be running at 75 billions annually a year later, at 50 billions two years later, and not under 35 billions three years later even if Japan meanwhile has been defeated. Then, four years after victory in Europe, the expenses might be down to the 25 or 30 billions annually, if that is where they are to stabilize.

Heavy Deficit Spending Seen

In these coming several years, therefore, there must be continued heavy deficit spending, even on the basis of the present high revenue of 45 billions annually (which actually cannot be maintained under present tax rates when war production and employment taper off). This means that the national debt will continue to climb, that there will be further heavy borrowing against the savings of the people, in the form of bank accounts, life insurance policies, stocks, or other investment. The latest lifting of the statutory limit on the national debt is from 260 to 300 billion dollars, with the gross public debt already up to 233 billions. But another jacking-up of the ceiling evidently will be necessary. It is calculated conservatively that before the country gets back down to the new-order "normal" spending by government, it will have upon its shoulders a national debt of at least 350 billions of dollars. That will be 9 times the national debt of 40 billion dollars at the end of 1939, when war broke out in Europe, although there had been much controversy over the building up of the debt to that level. It will be a debt equivalent to $10,000 per family.

These are figures, facts, and prospects into which there can not be read much hope of tax reductions in the near future. On the contrary, the data make it clear that when the nation finishes its herculean military job, it must re-gird itself for a similarly enormous, vigorous, and self-sacrificing postwar job of straightening out its financial affairs. It must work as never before in peacetime, producing and earning upon a scale never reached prior to the war, so that out of its earnings it can pay war-expanded current expenses and make some headway in repaying through the public treasury and tax payments the funds borrowed from those who "invested in liberty," including all of us who have bought war bonds. For in so far as we may fail to redeem gradually these government obligations as a nation, by reduction of the national debt, we shall ultimately discount the value of our government bonds, held personally or through bank accounts, insurance policies, or other investment, inviting economic disaster which would fall hardest on the "average" family.

Per Family Figure

Reduction of the national situation to the basis of the "average" family will give a clearer comprehension of the necessary job ahead. *"Normal" government spending of 25 to 30 billion dollars annually after the war would be equivalent to $700 to $850 per year or $60 to $70 per month for each family.* This would include only interest on the war-debt of $10,000 per family. To pay off that debt over a period as long as 20 years would require $500 per year or $40 per month in addition to the cost of current government, or a total of $100 to $110 a month for the 20 years of debt liquidation.

From these figures it is evident that each of use must be reconciled to heavy taxes henceforth, whether they are collected from us directly as personal income taxes or sales taxes or indirectly as income or manufacturers' taxes on corporations which add them to the prices of goods or services we buy.

From the above data it is evident also that our tax burden will be discouragingly heavy unless we maintain our production or service and the income therefrom at exceptionally high level, to make the taxes relatively less oppressive. To keep the tax burden from becoming even heavier, we must henceforth scrutinize and criticize, as never before, every politician's proposal to spend our money before we have even earned it. And furthermore, as a people heavily in debt and necessarily still borrowing heavily, it behooves us to launch a congressional investigation in reverse to examine, with our hands on our pocketbooks, the alleged necessity for federal government spending of $60 or $70 per month per family. Certainly, even the staunchest supporters of the present administration should be curious as to what its planners would offer in exchange for a postwar "normal" government take-in of 50 billion dollars a year, or $120 a month per family. For that is even more than the current unprecedented taxes are bringing in, and is 8 times the 6 billion a year or $15 a month per family spent before the war.

Questioning Suggested

On the basis of the most conservative estimates of 18 billion dollars of necessary revenue per year to meet postwar "normal" expenses of the federal government, the cost will be three times prewar, or $45 per month per family. If there are those who say $60 or $70 a month is necessary, let us see what the extra $15 or $25 a month will give us in return. And if the more magnificent planners say $120 a month is needed in revenue to cover planned expenditures, what are the extra government functions that could be worth an extra $75 per month? For after years of wartime shortages and denials, the American family will have urgent need for any part of $15 to $75 a month which it can spend privately instead of pouring into a voracious public treasury for doubtful indirect benefits.

Water-Flood Possibilities in The Hogshooter Field

By I. W. FOX, C. H. THIGPEN, R. L. GINTER and G. P. ALDEN
Conservation Branch, United States Geological Survey

The Oil and Gas Division of the United States Geological Survey is commencing a series of engineering studies that are to determine the possibility of economically recovering additional oil in the nation's depleted and semi-depleted fields through the application of secondary oil recovery methods. The first of the series has just been completed, covering the water-flood possibilities of the old Hogshooter field in northeastern Oklahoma.

Heretofore such reports have been limited in distribution. Recognizing the importance of disseminating such valuable conclusions, Director William E. Wrather of the U. S. Geological Survey has given THE OIL WEEKLY permission to publish the Hogshooter field report. Because of the wartime paper shortage, the report is presented in condensed form. The Geological Survey entitles its report "A Study of Secondary Recovery Possibilities of the Hogshooter Field, Washington County, Oklahoma." The report was prepared by the authors under the general supervision of J. R. Reeve, Supervisor, Mid-Continent District, Oil and Gas Leasing Division, U. S. Geological Survey, Tulsa.

ALTHOUGH the Bartlesville sand of the Hogshooter field of east-central Washington County, Oklahoma, had produced 7,566,000 barrels of oil up to January 1, 1944, this represents only 10.3 percent of the original oil in place. Total residual oil is estimated to average 11,776 barrels per acre. Conservatively-estimated water-flood recovery possibilities are 3500 barrels per acre for an area consisting of 1393 acres, or 4,875,000 barrels of additional oil than can be recovered with reasonable profit at the present price of crude oil; and 2500 barrels per acre for an area of 2248 acres, or a total of 5,620,000 barrels of additional oil that can be recovered profitably until the price of crude oil is increased by at least 45 cents a barrel.

The Hogshooter field was discovered in 1906. It embraces an area of 16,960 acres, along a narrow strip about 14 miles long from north to south and from a fraction of a mile to 5 miles wide. Oil production is confined to the northern part of the field, covering approximately 6 miles along the north-south axis. Oil is obtained in the Bartlesville sand, which covers approximately 5610 acres. The gas field proper bounds the oil field on the east and extends southward in a narrow belt beyond the limits of the oil productive area. The Burgess sand is the source of the gas production. During early development some wells had an initial production of 500 barrels daily, and 5 to 30 million cubic feet of gas.

Early Repressuring Operations

During the early part of the 1930's, gas and air repressuring in conjunction with vacuum operation was attempted in the Hogshooter field with little effect. However, the initial repressuring attracted attention and in 1935 a more intensive repressuring project was started by one operator. The results of the intensified repressuring were more satisfactory than had been obtained previously. Oil recovered up to January 1, 1944, which can be credited in the main to repressuring, approximates 420,000 barrels. The peak repressuring effect for the field was reached in 1938 with a total average production of 228 barrels per day for the year, from which time production declined steadily. Early in 1944 the field was producing approximately 140 barrels per day from 140 oil wells.

Many of the oil wells in the field have been plugged and abandoned in a very haphazard manner. Inadequate abandonment of wells after pulling the oil string was common in the early history of the field. Present day plugging in the field follows the conventional practice of sealing the producing sand with mud, covering with a cement plug, and filling the hole to the surface with mud fluid.

As of January 1, 1944, the Bartlesville sand in the Hogshooter field has been credited with a production of 7,566,000 barrels of oil from 871 wells. Of this, 84 percent, or 6,430,000 barrels, is attributable to primary production. A small amount of oil, in addition to that produced from the Bartlesville, has been recovered from the Peru sand. Recovery from the Bartlesville sand reservoir to date amounts to approximately 1350 barrels per acre.

The life of Bartlesville sand wells during primary production was exceedingly varied. Wells with low initial production and with low oil recovery per acre show a primary productive life history of six to 12 years. Wells of much higher recovery show an 18-year productive life, and the best producing wells in the field show a productive history of 20 years or more.

TABLE 1
Oil Production and Oil Reserve Data
(As of Jan. 1, 1944)

FIELD TOTAL	
Actual gross oil production, bbls	5,529,329
Estimated gross oil production, bbls	2,036,391
Total gross oil production, bbls	7,565,720
Percent actual production obtained on basis of total	73.1
Total productive acres	5,610
Total productive wells	871
Oil recovery per acre, bbls	1,349
Oil recovery per acre foot, bbls	56.8
Oil recovery per well, bbls	8,686
Well density, acres per well	6.44
Average porosity, percent	12.2
Sand Thickness, feet	23.4
Total reservoir void space, bbls	123,818,400
Reservoir void space, per acre, bbls	22,148
Total original oil in place, bbls	73,669,200
Original oil in place, bbls. per acre	13,132
Original oil in place, bbls. per acre foot	560.5
Oil recovery, percent of reservoir voids	6.1
Oil recovery, percent of original oil in place	10.3
Total residual oil in reservoir, bbls	66,065,500
Total residual oil in reservoir, bbls. per acre	11,776
Total residual oil, percent saturation of reservoir voids	53.4

Note:—Estimated original and residual oil reserves corrected to standard conditions by using an estimated connate water content of 30 percent and an estimated formation volume factor of 1.18.

Reservoir Characteristics

The Hogshooter field reached its peak production of approximately 740,000 barrels per year in 1910 and by 1915 had declined 73 percent from the peak. Although there are no bottom hole pressure records for this field, it is estimated the original Bartlesville sand reservoir pressure was approximately 500 pounds per square inch, which is normal for the 1150-foot average depth of the producing formation. An examination of the average production rate of decline curves discloses that the bottom hole pressure declined rapidly owing to unrestricted withdrawals. Decline characteristics as shown are typical of open flow operations in a gas-expansion type reservoir.

Gas-oil ratio records are unavailable. In order to give some general idea as to the early Bartlesville sand gas pro-

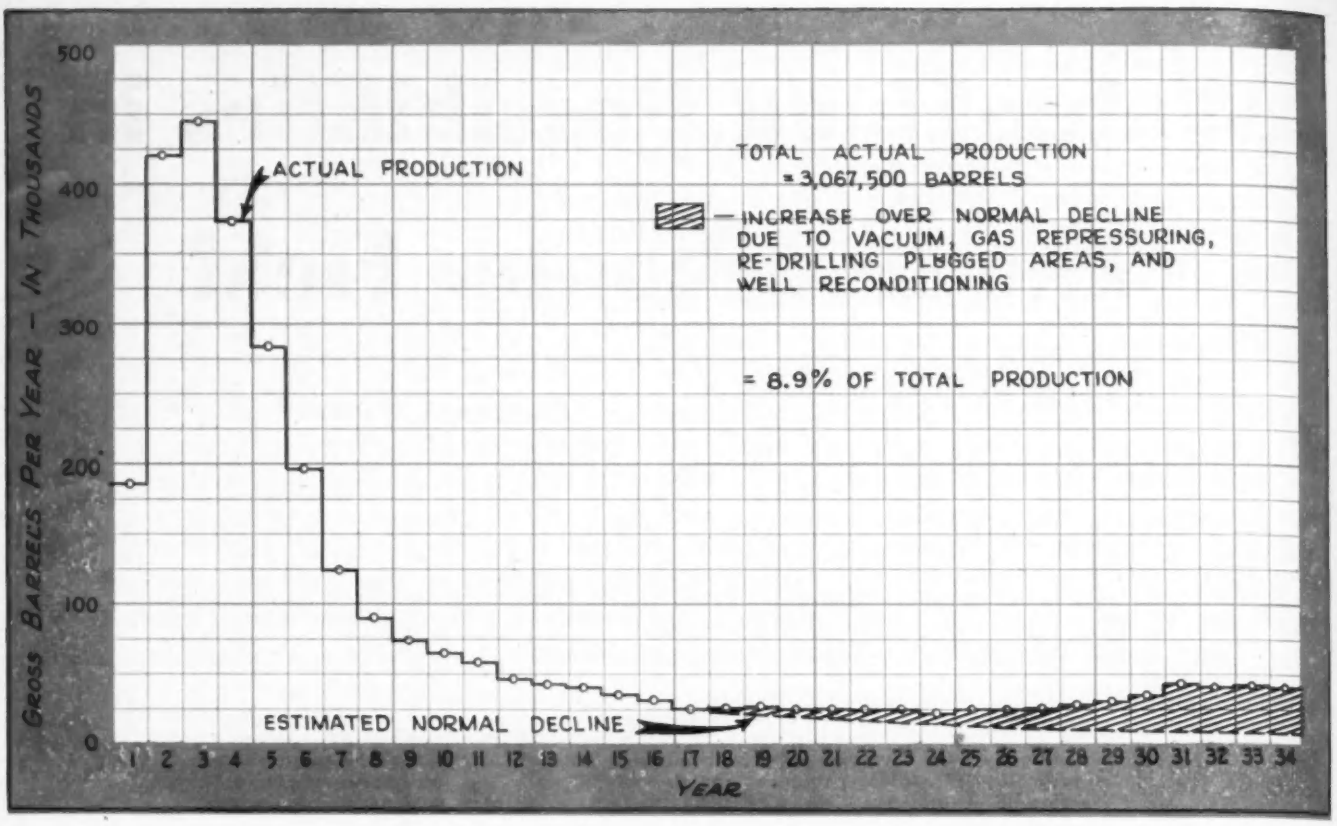

GROSS BARRELS PER YEAR - IN THOUSANDS
500
400
300
200
100
0
ACTUAL PRODUCTION
TOTAL ACTUAL PRODUCTION
= 3,067,500 BARRELS
— INCREASE OVER NORMAL DECLINE DUE TO VACUUM, GAS REPRESSURING, RE-DRILLING PLUGGED AREAS, AND WELL RECONDITIONING
= 8.9% OF TOTAL PRODUCTION
ESTIMATED NORMAL DECLINE
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34
YEAR

Figure 1. Production rate of decline curve for Hogshooter field, based on data from 24 leases.

duction, several operators of early developed oil properties and gasoline plants were interviewed. On the basis of the information obtained it is believed that gas-oil ratios, during the early or flush production life of the field, were about 1000 cubic feet per barrel of oil produced. However, it is estimated that the original gas in solution was 300 to 400 cubic feet per barrel, with the remainder coming from a free gas cap, the volume of which is unknown. In the past five years a few new oil wells drilled on inside locations have produced small volumes of gas from the Bartlesville sand.

Figure 1 represents the average rate of decline of the field. Data for the curves were obtained by selecting 24 leases considered representative of the field. Total recoveries range from the best to the poorest and include leases that first produced between 1907 and 1918.

The curves show the net effect of the application of vacuum, gas-repressuring, comparatively recent re-drilling of old plugged-out areas, and remedial work done on old wells. The shaded area represents 8.9 percent of the total recovery of the leases to date. Owing to the nature of the data used it is not possible to allocate the net gain over the normal decline to the different methods utilized for stimulating production. It is quite evident that this gain in production is small considering the magnitude of the operations and the expense involved.

Oil, Gas and Water Relations

The greater part of the Hogshooter field is underlain by the Bartlesville sand which has a thickness of about 23 feet and is found at approximately 1150 feet. Dry holes do not mean the absence of oil or the presence of water in the Bartlesville sand, but rather that the sand is too tight to produce.

Approximately 875 drillers' logs were examined, and not more than a dozen showed the absence of the Bartlesville sand. They revealed good coorelation as to the position of the "Big Lime" and the "Oswego Lime." Gas was reported frequently in the top of the oil sand and a few logs showed the Bartlesville sand as a gas sand.

The Bartlesville sand of Northeastern Oklahoma does not have a water history, although most of the wells producing from the Bartlesville sand show some water. The general opinion is that this water, with a few exceptions, is caused by leaking strings of casing. Some edge water is reported in the Delaware field extension of the Nowata district. Relative to the Hogshooter field, a recent well drilled close to an old well produced about ¼-barrel of water per day from the Bartlesville sand. In this case the water may very well be upper water introduced into the Bartlesville sand from leaking casing in old wells. In other areas in Oklahoma, edge water in the Bartlesville sand is not uncommon and in Southeastern Osage County the Bartlesville sand makes considerable water.

Studies of Physical Conditions

The two main controlling factors for a successful water-flood are sufficient oil reserve per acre, and the physical conditions of the sand body with respect to the permeability and the uniformity of the pay section. Both are considered of equal importance.

Many Bartlesville sand core analyses are available for Northeastern Oklahoma, but there are none available from the Hogshooter field. Because of the absence of adequate core analyses the following described hypothetical methods have been used. Engineers who have used such methods in other fields have found the results to be fairly satisfactory when applied to lenticular sand reservoirs, particularly in Northeastern Oklahoma.

Obviously, the behavior of a lease is an index of the permeability and porosity features of the sand body, and the problem presented was to find some feature or combination of features that could be used as an index for all the leases in the Hogshooter field. Well-initials for many years have been of value in estimating the relative permeabilities of oil sands. This information is of particular value when distance between wells and completion dates are known. Although 250 well initials were available, these data were not sufficiently spread to serve as a guide to the field.

The next feature examined was the total production obtained from the lease during the peak year, expressed as barrels per well per foot of sand. This value, designated as "Factor A," is the square root of the barrels per well per foot for the peak production year divided by 10. The factor is related to permeability as it embodies rate. However, the application of this factor was limited as reliable data, since less than 20 leases were available.

An attempt also was made to place all the leases on an equitable basis by excluding secondary development, owing to either the later drilling of new wells, or the application of vacuum, or both. Thus the primary production for leases on which secondary development was used was obtained by extrapolation of the decline curve to the economic limit from the date of the beginning of the secondary development. For some leases the primary production is the same as

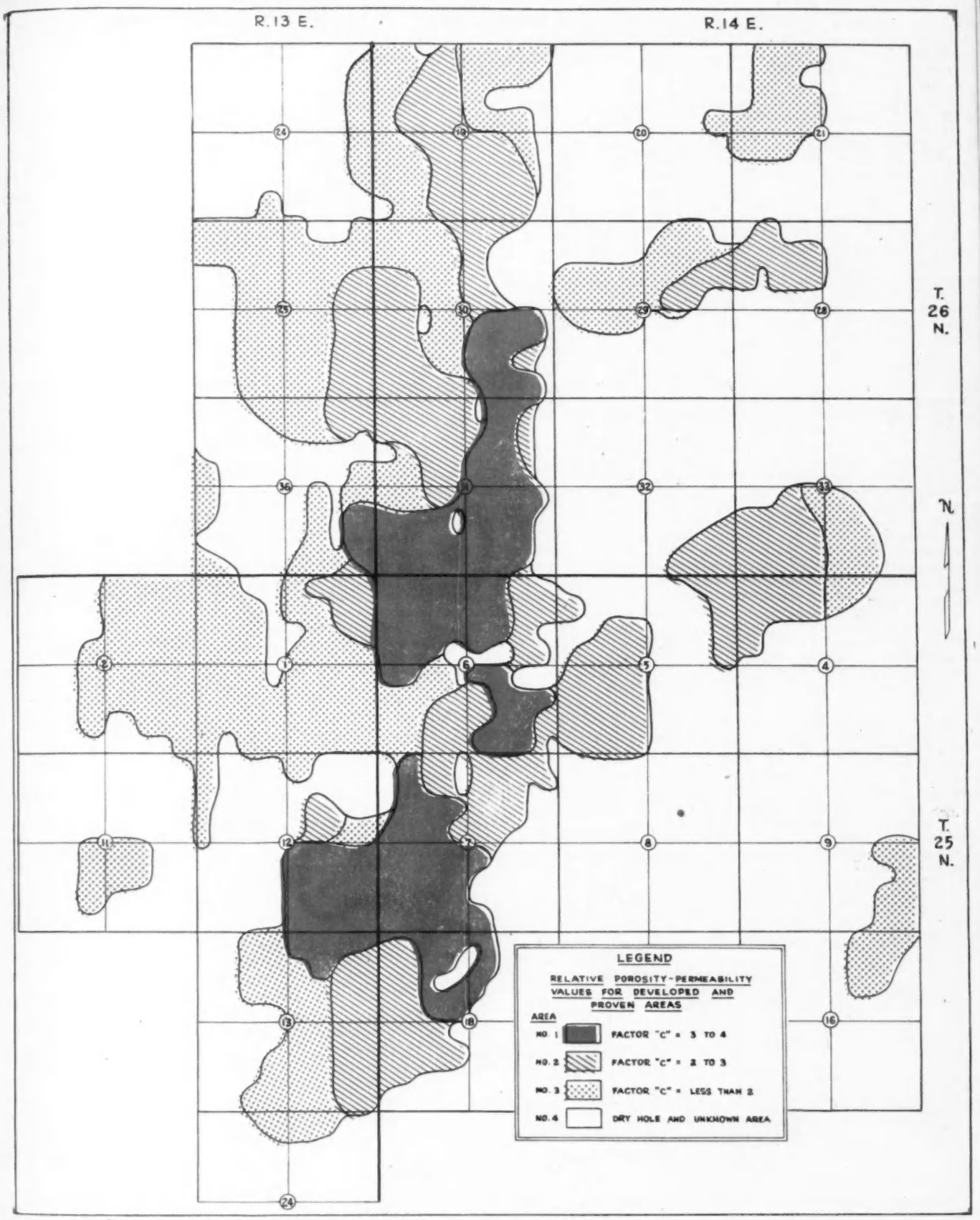

R.13 E.
R.14 E.
T. 26 N.
T. 25 N.
N
LEGEND
RELATIVE POROSITY-PERMEABILITY VALUES FOR DEVELOPED AND PROVEN AREAS
AREA
NO. 1 FACTOR "C" = 3 TO 4
NO. 2 FACTOR "C" = 2 TO 3
NO. 3 FACTOR "C" = LESS THAN 2
NO. 4 DRY HOLE AND UNKNOWN AREA

Figure 2. The relative producing characteristics of the Bartlesville sand in the Hogshooter field by areas.

the total production. This factor, called "Factor B," on the basis of primary production, is designated at barrels per well per foot of sand and the actual number is the square root of barrels per well per foot divided by 10. "Factor B" is related to porosity to a greater extent that it is related to permeability. Nevertheless, it was found applicable to the field as a whole.

Further, on the basis of primary production, an additional step toward improving the equitability of lease comparisons was made by calculating the primary production on the basis of constant well density. It has been found ("Well Spacing" by Stuart K. Clark, C. W. Tomlinson and J. S. Royds, Bulletin American Association Petroleum Geologists, Vol. 28, No. 2, p. 231, 1944) that for many sand bodies the total pro-

duction is a linear function of the reciprocal of the square root of the well density (acres per well); i.e., barrels per acre-foot plotted against the reciprocal of the square root of the well density. It is realized that a broad application of this premise is questionable, particularly for sand bodies several thousand feet in depth, and with high permeability and accompanying high formation pressure. Engineers are familiar with other examples of reservoir conditions that bring into play structural attitudes that do not agree with this premise. However, for lenticular type sand bodies at shallow depths with weighted average permeabilities of less than 50 millidarcys and with formation pressure in the neighborhood of 500 pounds, the relation of production (barrels per acre-foot) to well density, as mentioned above, appears not only reasonable but applicable, and in this report is so used for the Bartlesville sand in the Hogshooter field. A constant well density of five acres per well was arbitrarily selected, and on the basis of primary production, "Factor C" is designated as barrels per acre-foot, at a well density of five. The actual number used for this factor is the square root of barrels per acre-foot at a well density of five divided by 10. "Factor C" is closely related to porosity and to some extent permeability. "Factor C" values were calculated for all the leases on the basis of primary production and the producing acreage. The sand body condition (Figue 2) was constructed from "Factor C."

Clean-cut samples of the Bartlesville sand were collected from several wells. Laboratory analyses of these samples considered to be representative of the pay section disclosed porosity values ranging from 15 to 22 percent; however, the samples were too small for permeability determination.

Inasmuch as the individual leases of the field were studied, the arbitrary assignment of a single figure as an estimated porosity is obviously approximate. For want of a better procedure the average of the four highest "Factor C" values was taken as equivalent to 20 percent porosity, and the porosities were estimated as being directly related to "Factor C," as found for the particular lease. It will be observed that all production data that embody percent pore volume are reasonable, and further, the low estimated porosities appear consistent when it is considered that those porosities imply a weighted average concept for the tight shaly phases and the good part of the sand body.

TABLE 2

Bartlesville Sand Body Factors

Lease No.	Producing Acreage	Gross Production Barrels per Acre	Well Density Acres per Well	Barrels per Acre-Foot	Barrel per Acre-Foot At Well Density 5	Sand Body Factor C
1	50	1,431	6.2	68.2	76.0	2.76
2	60	1,730	6.0	96.0	105.0	3.24
3	50	3,095	6.2	90.0	100.0	3.16
4	95	2,934	7.9	103.0	129.0	3.59
5	60	3,760	6.7	140.0	162.0	4.02
6	20	3,880	5.0	100.0	100.0	3.16
7	60	2,256	7.5	75.0	91.7	3.03
8	70	3,780	5.8	106.0	114.0	3.37
9	80	2,890	4.7	100.0	97.0	3.11
10	20	2,590	20.0	54.6	109.0	3.31
11	40	2,270	10.0	91.0	128.0	3.58
12	120	1,605	10.9	38.1	56.0	2.37
13	70	1,070	14.0	31.6	53.0	2.30
14	15	1,876	5.0	75.0	75.0	2.74
15	65	2,120	6.5	94.0	107.0	3.27
16	60	2,795	12.0	78.0	120.0	3.47
17	45	2,029	7.5	92.0	112.0	3.35
18	100	2,461	7.7	90.0	112.0	3.35
19	65	1,802	8.1	58.0	73.0	2.71

The sand body condition map, Figure 2, shows the relative producing characteristics of the Bartlesville sand in the Hogshooter field by areas. Areas 1, 2, and 3, consisting of 6783 acres, are oil productive. Area 4 represents the dry hole and unknown areas. Area 1 (1393 acres) represents the area of the best sand body conditions, whereas Area 2 shows less favorable sand conditions. Area 3 (3142 acres) displays the shaly area of the sand body. A summary of the distribution of the Bartlesville sand areas is as follows:

	Acres	Percent
Area 1	1393	20.55
Area 2	2248	33.17
Area 3	3142	46.28
Total	6783	100.00
Developed Area	5610	82.80
Proved Area	1173	17.20
Total	6783	100.00

Table 2 shows the varying values of total production (barrels per acre) and the calculated sand body of condition "Factor C" in the Hogshooter field.

From the standpoint of estimating recoverable oil reserves, it is preferable to have core analysis data of the producing formation. However, this information was not available and the estimated recoverable oil reserves should be regarded as preliminary and subject to final correction warranted by any core anyalses that may be made in the future. In arriving at conclusions on what were believed to be reasonable recoverable reserve estimates, due consideration was given to Bartlesville sand secondary recovery projects operated in Northeastern Oklahoma.

Following is the recoverable oil estimates for Area 1 and Area 2 by water-flooding:

AREA 1

Area in acres	1,393
Estimated recoverable oil, barrels per acre	3,500
Estimated recoverable oil, barrels	4,875,000

AREA 2

Area is acres	2,248
Estimated recoverable oil, barrels per acre	2,500
Estimated recoverable oil, barrels	5,620,000
Total for Areas 1 and 2	10,495,000

For all practical purposes the Bartlesville sand of the Hogshooter field has reached its primary producing economic limit. Approximately 75 percent of the present daily oil production is being produced from less than 50 percent of the present producing wells by an operator who is injecting a small amount

TABLE 3

Valuation of Hogshooter Water-Flood Property

(Based on 160 acre flood project—"5 Spot" Pattern—440 ft. x 440 ft. W-W)

	AREA 1.				AREA 2.			
	Pumping Oil Wells		Flowing Oil Wells		Pumping Oil Wells		Flowing Oil Wells	
	New Equipment	Salvage Equipment	New Equipment	Salvage Equipment	New Equipment	Salvage Equipment	New Equipment	Salvage Equipment
A. COST OF DEVELOPMENT								
Investment (Per Acre Basis)								
Drill and complete 37 water input wells	$ 510	$ 480	$ 510	$ 490	$ 510	$ 490	$ 510	$ 490
Drill and complete 36 oil producing wells	770	590	505	460	770	590	505	460
Production equipment, (pumping or flowing equipment, tanks, lines, etc.)	130	95	75	60	130	95	75	60
Plant investment, (water system, pumps, treating equipment, etc.)	200	180	200	180	200	180	200	180
	1,610	1,345	1,290	1,190	1,610	1,345	1,290	1,190
Less salvage value on proposed installation	80	35	35	20	80	35	35	20
Net cost of development	1,530	1,310	1,255	1,170	1,530	1,310	1,255	1,170
Operating (Per Acre Basis)								
Operating cost, (lifting, reconditioning, plant, treating, etc.)	1,295	1,295	1,080	1,080	1,295	1,295	1,080	1,080
Total development and operation cost	2,825	2,605	2,335	2,250	2,825	2,605	2,335	2,250
B. ESTIMATED INCOME FROM WATER-FLOODING								
Gross oil recovery, barrel, per acre	3,500	3,500	3,500	3,500	2,500	2,500	2,500	2,500
Less one-eight royalty, barrel, per acre	438	438	438	438	313	313	313	313
Net oil recovery barrel, per acre	3,062	3,062	3,062	3,062	2,187	2,187	2,187	2,187
Gross, income, per acre ($1.13 per barrel, less 5% gross prod. tax)	3,289	3,289	3,289	3,289	2,349	2,349	2,349	2,349
Net income (profit), per acre	464	684	954	1,039	—476	—256	14	99
Estimated profit or loss, 160 acres water-flooded project	74,240	109,440	152,640	166,240	—76,160	—40,960	2,240	15,840

of repressure gas. It is believed that were it not for these existing conditions, all of the Hogshooter Bartlesville sand producing wells would have already been abandoned. The recovery of oil under the present operating practice is expected to be quite small in comparison with expected recoveries under a sound water-flooding project.

The gas-productive zones of the Hogshooter field do not offer a source of gas reserve sufficient in volume for any sizeable gas-repressuring project. The once prolific Burgess gas sand has been depleted, and records of recent wells testing this sand have reported water from the Burgess sand filling the hole to within a few hundred feet of the surface.

Water Resources for Flooding

The Caney River flows southward along the west side of Washington County to the Center of 12-25n-13e, and thence southeastward across Washington County. The Caney River discharge, however, is very erratic during the seasonal periods of the year. Available records probably will preclude the Caney River from consideration as an ample source of water for flooding the Hogshooter field.

On the basis of records at hand, the Arbuckle appears to be the most dependable source of water for flooding the Hogshooter field. As the top of the Arbuckle is an erosional unconformity of major proportions, the chances of not finding water in the Arbuckle are remote. In this region, the salt water of the Arbuckle usually carries hydrogen sulphide, and objections to this water have been raised because of its corrosive nature. However, this objection is not insurmountable as conventional treating methods are available and the water reacts favorably to chemical treatment.

The following plan of obtaining Arbuckle water in the Hogshooter field and the estimated costs were obtained from a large operator who at the present time is engaged in deepening and reconditioning old wells on his property. The suggestion in outline form is that the old 6⅝-inch pipe in Bartlesville wells selected for deepening to the Arbuckle be pulled; 8-inch hole then be reamed down from the surface to the old total depth; the old shot hole in the Bartlesville be cleaned out and new hole with a cable-tool 8-inch bit be drilled in the Arbuckle, which should be found at a depth of approximately 1700 feet in the Hogshooter field. If water is found in the Burgess sand the well can be completed at that depth. If the Burgess, later, fails to furnish sufficient water then the same hole can be carried on to the Arbuckle lime. The next step would be the setting of good used 6⅝-inch casing at the top of the Burgess, or in the "Mississippi lime," followed by cementing the string to the surface. A casing pump and a conventional surface pumping unit would be installed.

Estimated costs of reconditioning an old Bartlesville sand well and deepening it to the Arbuckle amount to $6563. Rating the water production from the Arbuckle at 2000 barrels per day per well, a quarter section flood property will require two wells at a total cost of around $13,100.

For a small plant handling only 3000 to 4000 barrels of water per day, using new equipment, the estimated cost for installation is approximately $6.25 per barrel per day capacity. The cost of a larger water treating plant, handling approximately 40,000 barrels of water per pay, would probably be close to $75,000, or only $1.87 per barrel per day plant capacity. Essentially the equipment of a water treating plant consists of the following: settling tanks, chemical dry-feeder machine, filters, back-wash pumps and high pressure pumps that serve the input-wells.

Development and Economics

The report suggests that the "five-spot" pattern type of flood will conform to the operational and economic conditions of the Hogshooter field.[1]

The estimates of recoverable oil reserves from Areas 1 and 2 in the Bartlesville sand by water flooding are not precise, but expectancy will depend entirely upon prevailing sand conditions and the percentage of oil and water saturation in the sand reservoir under a particular property. In the main the existing physical characteristics of the reservoir will require confirmation by cores and subsequent core analyses prior to establishment of definite recovery estimates from the two areas considered.

A cost analysis and valuation of a hypothetical water-flood in the Hogshooter field, comprising 160 acres and developed on a spacing of 440 feet between like wells, is presented in Table 3. Preliminary estimates of expectancy are of the order of 3500 barrels per acre for Area 1 and 2500 barrels per acre for Area 2. It is estimated that the life of such a flood will not exceed 8 to 10 years, assuming that production will cease when the water-oil ratio reaches a stage where it is economicaly infeasible to continue operations.

The estimates given in the table by no means imply that the values will apply to any particular lease in the field, but are presented mainly to illustrate the relative low costs of development and profits involved in a water-flood property under normal operating practices in the Hogshooter field. However, the values are considered to be applicable to Areas 1 and 2 as a whole, and are comparable to other successfully developed water-floods in Northeastern Oklahoma. Moreover, water-flood development costs vary somewhat with particular operators, and it is not unusual for the cost per acre of water-flood development to show variation, although the basic methods of operation are similar.

With reference to Table 3, the profits derived by operational methods of pumping the oil wells in Area 1 are very marginal, in comparison to the profitable income per acre attained by operation involving flowing methods. In Area 2, profitable water-flood development is restricted to flowing operations at the current market price of crude oil. However, a minimum increase of 45 cents per barrel in the present crude price structure would place Area 2 on an equitable income status comparable to that of Area 1. The income-producing status of the two areas, when considered as a whole, is quite marginal and any upward revision of the present crude price would place prospective water-flood development in the Hogshooter field in a more favorable position.

Furthermore, at the current market price of crude oil, the reserves of the Hogshooter field recoverable by profitable water-flooding are estimated to be approximately 4,875,000 barrels. The previously postulated increase in price of crude of 45 cents per barrels would place Area 2 in the profitable flooding venture class, and increase the recoverable reserves by 5,620,00 barrels, for a total reserve of 10,436,000 barrels recoverable by water-flooding in the field.

[1] "Water Flooding In Oklahoma" by David M. Logan, THE OIL WEEKLY, April 2, 1945.

Funds Are Requested for Acetylene Manufacture

A request that the Texas Legislature appropriate $200,000 for research on obtaining acetylene from natural gas has been approved by the University of Texas Board of Regents. The program was advocated by Dr. E. P. Schoch who plans first to obtain acetylene, and from this, carbon black, which he believes will be a distinct improvement over present methods.

Meanwhile, the Senate has passed a bill which will enable oil corporations to engage in chemical production, including the manufacture of synthetic rubber, continuing the operations begun during the war.

The House has engrossed a bill to increase from four to five cents per gallon the tax on gasoline. Additional revenues would be used for construction of lateral roads, especially farm-to-market roads.

Plans for a new gas conservation bill appeared to be abandoned, according to sponsors of these measures in both Houses.

Liquefied Petroleum Gas Group Selects Officers

Ernest Fannin of Fannin's Gas and Equipment Company, Phoenix, Arizona, has been elected president of Liquefied Petroleum Gas Association to succeed Louis Abramson, Jr., Petrolane Gas Corporation, New Orleans. Harry K. Strickler, Protane Corporation, Erie, Pennsylvania, was re-elected first vice president and Charles O. Russell, Thermogas Company, Inc., Des Moines, Iowa, second vice president. Sectional chairmen are: H. Emerson Thomas, Fuelite Natural Gas Company, Lexington, Massachusetts, Eastern; Charles O. Russell, Midwest; Ernest Fannin, Pacific; and Selwyn Turner, National Butane Gas Company, Mobile, Alabama, Southern.

New members named to the board are: Walter F. Verkamp, Cincinnati; B. T. Harris, Little Rock, Arkansas; F. F. Hampson, Yakima, Washington; Lee H. Barker, Wisconsin Rapids, Wisconsin; Thomas, Fannin and Russell.

Oklahoma's Gasoline Tax Now Highest in Nation

Oklahoma now holds the dubious distinction of having the highest state gasoline tax in the nation as a result of the recent increase to 7½ cents per gallon which became effective in April. The Oklahoma legislature which voted more taxes than any of its 19 predecessors also added 15 percent to the motor vehicle license tax.

Sharp Increase Shown for

U. S. Exploratory

LAST year, 4796 exploratory holes were drilled as contrasted with 3843 in 1943. Exploratory footage in 1944 was 20,225,887 feet as against 15,122,364 feet in 1943. The average depth of hole increased from 3935 feet in 1943 to 4217 feet in 1944, for the United States as a whole, and from 4968 feet to 5317 feet in the southern-States area.

The standardized classification of exploratory wells, which was explained fully a year ago (see AAPG Bulletin for June, 1944), was used in this review of exploratory drilling in 1944. Table 1 shows the terminology used in classifying of exploratory wells.

The 4796 exploratory holes and 20,225,887 feet of hole drilled in 1944 (see Table 2) were divided as follows:

Digest of an article to be published in American Association of Petroleum Geologist's Bulletin, June, 1945.

Any reduction in the search for additional production would be serious menace to prospects of finding adequate oil reserves in the next few years

944 producers..... 4,382,220 feet
3852 dry holes.....15,843,367 feet

This means that 19.6 percent of the holes drilled and 21.1 percent of the footage drilled were successful in 1944. One producer foot was drilled for every 3.61 feet of dry hole. One successful well was drilled for every 4.08 dry holes.

Southern States

In the southern states (Table 3) in 1944, a total of 11,899,426 feet was drilled in 2238 holes, divided as follows:

473 producers.....2,804,005 feet
1765 dry holes.....9,095,421 feet

In this area, then 21.1 percent of the holes drilled, and 23.5 percent of the footage drilled were successful. One producer foot was drilled for every 3.24 feet of dry hole. One successful well was drilled for every 3.73 dry holes. The average depth of hole was 5317 feet. For comparison with statistics for this same area in 1938, 1939, 1940, 1941, 1942, and 1943, see Table 3.

Selection of the location for a wildcat well may be based on geology (surface geology, subsurface geology, trend along known structural or stratigraphic conditions, local or regional, or shallow exploratory drilling); or it may be based on geophysics (exploration by seismo-

TABLE 1
Classification of Exploratory Wells

				CLASSIFICATION WHEN DRILLING IS STARTED	CLASSIFICATION AFTER COMPLETION OR ABANDONMENT	
					SUCCESSFUL	UNSUCCESSFUL
				A	B	C
DRILLING FOR LONG EXTENSION OF PARTLY DEVELOPED POOL.				1 OUTPOST	1 EXTENSION WELL (SOMETIMES A NEW-POOL DISCOVERY WELL)	1 DRY OUTPOST WELL
DRILLING FOR A NEW POOL ON A STRUCTURE OR IN A GEOLOGICAL ENVIRONMENT ALREADY PRODUCTIVE.	NEW-POOL TESTS	DRILLING WITHIN LIMITS OF AREA	FOR NEW POOL ABOVE DEEPEST POOL.	2a SHALLOWER-POOL TEST	NEW-POOL DISCOVERY WELLS: 2a SHALLOWER-POOL DISCOVERY WELL	DRY NEW-POOL TESTS: 2a DRY SHALLOWER-POOL TEST
			FOR NEW POOL BELOW DEEPEST POOL.	2b DEEPER-POOL TEST	2b DEEPER-POOL DISCOVERY WELL	2b DRY DEEPER-POOL TEST
		DRILLING OUTSIDE LIMITS OF DEVELOPED POOLS		2c NEW-POOL WILDCAT	2c NEW-POOL DISCOVERY WILDCAT	2c DRY NEW-POOL WILDCAT
DRILLING FOR A NEW FIELD (I.E., ON A STRUCTURE OR IN AN ENVIRONMENT NEVER BEFORE PRODUCTIVE).				3 NEW-FIELD WILDCAT	3 NEW-FIELD DISCOVERY WILDCAT	3 DRY NEW-FIELD WILDCAT

Drilling in 1944

But Additional Wildcatting Needed

By FREDERIC H. LAHEE
Chief Geologist, Sun Oil Company

graph, torsion balance, gravity meter, magnetometer, etc.); or it may be based on some non-technical suggestion or requirement, such as "creekology," "hunch," "doodlebug," promotion, lease obligation, reported showing of oil or gas in holes previously drilled, et cetera. In some cases the reason for choosing the location cannot be escertained.

In Table 4 are listed the reasons for drilling the exploratory holes in 1944, using the best information available from men familiar with such statistics, each in his own state or district. According to these figures, 844 exploratory holes drilled on technical advice (geology and/or geophysics) were successful (oil or gas), and 3007 were dry; 90 holes, located for non-technical reasons, were producers, and 735 were dry. Ten producers and 110 dry holes were located for reasons unknown. These figures show that 21.9 percent of the holes drilled on technical advice were producers as contrasted with 10.9 percent successful in the case of holes located without technical advice. Therefore, in 1944, locations based on technical recommendations were twice as successful as those drilled without such advice. In the southern states area 8.2 percent of the exploratory holes, located without technical advice, were producers, whereas 22.5 percent of the holes located on technical advice were producers.

Comparing last year's figures (F. H. Lahee, "Classification of Exploratory Drilling and Statistics for 1943," *Bull. Amer. Assoc. Petrol. Geol.*, Vol. 28, pp. 701-721) with figures for 1944, note the following:

More Exploration

1. There was a considerable increase in the exploratory effort in all important states.

2. The average depth of hole, in the

TABLE 2
Number of Oil Wells, Gas Wells, Condensate Wells, and Dry Holes Drilled as Exploratory Tests in 1944

STATES	OIL PRODUCERS		GAS PRODUCERS		CONDENSATE PRODUCERS*		DRY		Total No. of Holes	Total Footage Drilled	Average Depth of Hole†
	No. of Holes	Footage Drilled	No. of Holes	Footage Drilled	No. of Holes	Footage Drilled	No. of Holes	Footage Drilled			
Alabama	3	14,635	..	.....	..	.....	21	111,698	24	126,333	....
Arizona	..	.....	..	.....	..	.....	1	3,609	1	3,609	....
Arkansas	2	16,241	..	.....	1	7,091	72	322,319	75	345,651	4609
California	58	283,291	13	74,949	..	.....	244	1,079,261	315	1,437,501	4563
Colorado	3	12,377	1	7,005	..	.....	7	36,240	11	55,622	....
Florida	..	.....	..	.....	..	.....	7	38,765	7	38,765	....
Georgia	..	.....	..	.....	..	.....	6	29,730	6	29,730	....
Illinois	79	199,875	..	.....	..	.....	355	859,655	434	1,059,530	2441
Indiana	14	30,178	..	.....	..	.....	77	153,802	91	183,980	2022
Iowa	..	.....	..	.....	..	.....	1	(?) 2,000	1	2,000	....
Kansas	54	181,578	12	48,590	..	.....	422	1,568,814	488	1,798,982	3686
Kentucky (W.)	29	52,147	1	667	..	.....	162	315,116	192	367,930	1916
Louisiana	44	343,342	4	32,957	21	232,885	169	1,276,653	238	1,885,837	7924
Michigan	20	55,434	3	6,967	..	.....	275	688,864	298	751,265	2521
Mississippi	7	56,329	1	2,328	1	9,967	64	483,103	73	551,727	7558
Missouri	..	.....	..	.....	..	.....	5	8,682	5	8,682	....
Montana	4	13,365	3	7,076	..	.....	44	133,869	51	154,310	3026
Nebraska	..	.....	..	.....	..	.....	16	44,879	16	44,879	....
New Mexico	8	37,566	1	9,592	..	.....	65	216,700	74	263,858	3566
New York	..	.....	1	3,907	..	.....	15	58,386	16	62,293	....
Ohio	10	23,268	24	73,910	..	.....	77	252,285	111	349,463	3148
Oklahoma	71	278,712	16	51,866	..	.....	297	1,252,837	384	1,583,415	4123
Pennsylvania	1	2,085	12	32,245	..	.....	29	95,662	42	129,992	3095
Tennessee	1	522	3	3,845	..	.....	16	15,248	20	19,615	....
Texas	279	1,382,275	38	184,858	63	473,939	1,365	6,619,188	1,745	8,660,260	4963
Utah	..	.....	..	.....	..	.....	1	2,651	1	2,651	....
West Virginia	..	.....	14	51,706	..	.....	22	108,629	36	160,335	4454
Wyoming	22	75,098	2	7,552	..	.....	17	65,022	41	147,672	3602
Totals	709	3,058,318	149	600,020	86	723,882	3,852	15,843,667	4,796	20,225,887	4217

* In former years our statistics have included condensate wells with gas wells.
† Averages have been recorded here only for states where more than 25 exploratory holes were drilled in 1944.

TABLE 3
Comparative Statistics for Southern States*

YEAR	PRODUCERS DRILLED				DRY HOLES DRILLED				Total Number Explor. Holes Drilled	Total Feet Drilled	Average Depth of Hole (Feet)	Number of Dry Hole Feet Drilled For Each Producer Ft.
	Holes		Footage		Holes		Footage					
	Number	Percent	Feet	Percent	Number	Percent	Feet	Percent				
1938	200	13.6	984,262	17.4	1,271	86.4	4,667,402	82.6	1,471	5,651,664	3,842	4.74
1939	161	12.6	779,345	14.8	1,113	87.4	4,501,669	85.2	1,274	5,281,014	4,145	5.90
1940	187	12.8	919,506	14.9†	1,279	87.2	5,251,273†	85.1†	1,466	6,170,779	4,209†	5.71†
1941	258	16.5	1,264,774	18.4	1,305	83.5	5,578,975	81.6	1,563	6,843,749	4,372	4.41
1942	231	16.3	1,289,480	19.6	1,186	83.7	5,295,556	80.4	1,417	6,585,036	4,647	4.11
1943	287	17.3	1,546,956	18.8	1,369	82.7	6,680,512	81.2	1,656	8,227,468	4,968	4.32
1944	473	21.1	2,804,005	23.5	1,765	78.9	9,095,421	76.5	2,238	11,899,426	5,317	3.24

* Area includes Texas, Louisiana, Arkansas, Mississippi, Alabama, Georgia, Florida, and southeastern New Mexico.
† See Bull. Amer. Assoc. Petrol. Geol., Vol. 25, p. 1938, where corrections are mentioned for these figures as they appeared in Table II, p. 1001, of the same volume.

TABLE 4

Basis for Locating Exploratory Holes Drilled in 1944

STATE	Geology		Geophysics*		Geology and Geophysics*		Sundry Non-Technical		Unknown		Totals		Grand Total
	Prod.	Dry	Prod.	Dry	Prod.	Dry	Prod.	Dry	Prod.	Dry	Prod.	Dry	
Alabama	2	4	....	9	1	4	....	1	....	3	3	21	24
Arizona	....	1	....	....	....	....	....	....	....	....	....	1	1
Arkansas	....	29	2	35	1	5	....	2	....	1	3	72	75
California	49	159	5	37	16	37	1	8	....	3	71	244	315
Colorado	3	3	1	2	....	....	....	2	....	....	4	7	11
Florida	....	1	....	2	....	....	....	4	....	....	....	7	7
Georgia	....	....	....	2	....	....	....	4	....	....	....	6	6
Illinois	54	236	15	51	5	16	5	52	....	....	79	355	434
Indiana	12	17	1	20	....	....	....	35	1	5	14	77	91
Iowa	....	1	....	....	....	....	....	....	....	....	....	1	1
Kansas	44	196	8	59	2	10	12	150	....	7	66	422	488
Kentucky (W.)	20	84	....	....	....	....	10	77	....	1	30	162	192
Louisiana	32	64	18	65	19	38	....	2	....	....	69	169	239
Michigan	16	129	1	2	....	....	6	144	....	....	23	275	298
Mississippi	....	9	5	39	3	8	1	7	....	1	9	64	73
Missouri	....	....	....	....	....	....	....	....	....	5	....	5	5
Montana	3	13	....	3	1	....	1	6	2	22	7	44	51
Nebraska	....	6	....	....	....	....	....	10	....	....	....	16	16
New Mexico	6	31	1	6	2	10	....	16	....	2	9	65	74
New York	....	9	1	....	....	....	....	....	....	6	1	15	16
Ohio	12	38	....	3	....	....	20	31	2	5	34	77	111
Oklahoma	47	170	19	89	12	....	8	38	1	....	87	297	384
Pennsylvania	10	15	....	....	....	....	....	....	3	14	13	29	42
Tennessee	2	7	....	....	....	....	2	9	....	....	4	16	20
Texas	263	852	66	226	37	134	13	120	1	33	380	1365	1745
Utah	....	1	....	....	....	....	....	....	....	....	....	1	1
West Virginia	4	7	....	....	....	....	10	15	....	....	14	22	36
Wyoming	17	12	3	....	3	1	1	2	....	2	24	17	41
Total	596	2094	†146	†650	‡102	‡263	90	735	10	110	944	3852	4796

* Including Geochemistry. † Of these holes, 142 producers and 596 dry holes were located by seismograph.
‡ Of these holes, 102 producers and 248 dry holes were located by seismograph and geology.

states where 25 or more exploratory holes were drilled, decreased in Arkansas, Kansas, Kentucky, and Louisiana, but increased in all other states in this category. The overall average depth for the United States increased from 3935 to 4217 feet.

As in the past two years we are again submitting herewith special tables relating to the following 11 states: Arkansas, California, Illinois, Indiana, Kansas, Louisiana, Michigan, Mississippi, New Mexico, Oklahoma, and Texas. In Table 5 are statistics on the exploratory holes, and in Table 6 are statistics on the proved reserves, in the area of these 11 states.

In Table 6, under A, are recorded the proved reserves as of January 1 in each of the indicated years, and for the 11-states area under discussion. Under B is shown, for each January 1, the net change in estimated proved reserves since the preceding January 1, allowing for production during that 12-month period. Under C are the new proved reserves directly attributable to new-pool discoveries plus new-field discoveries, all made during 1944. Under D are the revisions and additions of estimated proved reserves in fields already discovered in previous years, these revisions and additions having been made partly on the basis of new information obtained through development during the year indicated, but mostly as a result of extensions made to old pools during that year. Under E all the new reserves (C+D) are totaled for each year.

Computing Exploration

If, for each year, the newly discovered proved reserves (C, Table 6) are divided by the number of exploratory holes drilled in that year, or by the total exploratory footage drilled in that year, the result will show a measure of the degree of success of exploratory drilling in terms of newly discovered proved reserves (G and H, Table 6); and if the total new proved reserves (discoveries plus revisions plus extension: E, Table 6) are divided by the number of exploratory holes drilled, or by the total exploratory footage drilled, the result will show a rough measure of the degree of success of the exploratory effort (I and J, Table 6). Under G and H the measure is short. Under I and J, the measure may be too large or too small. In any case, there is an unavoidable error in estimating *rate of discovery*, or degree of success in wildcatting, measured in terms of new reserves; but the figures obtainable by these methods, as here described, are a significant index. They reveal a marked drop in the rate of discovery from 1937 to 1943, inclusive, and this in spite of a steadily increasing footage drilled in exploratory holes and an increasing number of exploratory holes drilled each year. The marked increase in exploratory drilling, indicated in 1943 as compared with 1942, was still more strongly emphasized in 1944, both as to number of holes drilled and as to footage drilled. This great increase—19.2 percent in number of holes and 29.6 percent in total exploratory footage—helped to yield an increase in proved reserves amounting to 9.3 percent of the proved reserves as of January 1, 1944, if 1944 production is included. This was for the "11 states area."

For the whole country the proved reserves as of January 1, 1944, were estimated by the American Petroleum Institute to be 20,064,152,000 barrels, and the proved reserves as of January 1, 1945, 20,453,231,000 barrels, thus showing a net increase of 389,079,000 barrels which, with the country's production of 1944, totaled 2,067,500,000 barrels. This was 10.3 percent of the proved reserves as of January 1, 1944. In using these figures, however, it must be remembered that a considerable proportion of these new proved reserves is found through field development wells and through extension (successful outpost) wells. On the other hand, in subsequent years, new proved reserves, added through field development wells and extension wells of those years, will actually be a part of the success of 1944 discoveries of new oil.

Distribution of Hole

In Table 7 is shown the distribution of the several classes of exploratory hole drilled in 1944. As might be expected, the percentage of success of outpost wells (from 32.47 to 43.41 percent in the different groupings of the states), of shallower-pool tests (from 66.67 to 73.69 percent), and of deeper-pool tests (from 33 to 59.09 percent), and also of new-pool wildcats (from 22.79 to 48.57 percent), runs considerably higher than the percentage of success in new-field (rank) wildcatting (from 10.85 to 12.61 percent). For this reason it has been suggested that during the present emergency the exploratory effort be concentrated on new-pool tests, and that much less drilling of new-field wildcats be undertaken. This idea may have been encouraged by the thoughts that under this kind of a program less steel might be required, that pipe line facilities might already be available for newly found oil, and that at least a part of the preliminary technical exploration would have been accomplished.

However, in answer to these thoughts

TABLE 5

Statistics on Exploratory Holes in Area of Eleven Selected States*

	Located On Technical Basis				Non-Technical Location				Unknown Basis For Location				Totals				Grand Totals Exploratory Holes	Total Footage		Grand Totals Footage	No. of Ft. in Dry Holes Drilled Per Ft. in Producing Exploratory Holes
	Producers		Dry Holes		Producers		Dry Holes		Producers		Dry Holes		Producers		Dry Holes			Producers	Dry		
	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Per-No.	No.	Percent	No.	Percent	No.	Percent					
1937	214	16.05	1119	83.95	17	5.80	276	94.20	48	9.21	473	90.79	279	12.99	1868	87.01	2147	1,188,366	7,002,875	8,191,241	5.89
1938	283	17.93	1295	82.07	43	7.61	522	92.30	17	4.67	347	95.33	343	13.68	2164	86.32	2507	1,482,889	7,119,867	8,602,756	4.80
1939	216	13.33	1404	86.67	43	6.15	656	93.85	10	4.85	196	95.15	269	10.65	2256	89.35	2525	1,107,395	7,344,424	8,451,819	6.63
1940	309	15.69	1660	84.31	35	4.57	731	95.43	11	8.09	125	91.91	355	12.37	2516	87.63	2871	1,397,496	8,416,015	9,813,511	6.02
1941	463	20.17	1832	79.83	29	3.92	710	96.08	..	....	55	100.00	492	15.92	2597	84.08	3089	2,023,184	9,222,217	11,245,401	4.55
1942	438	18.25	1961	81.75	21	3.81	530	96.19	11	12.36	78	87.64	470	12.17	2569	87.83	3039	2,094,038	9,597,767	11,691,805	4.58
1943	584	19.23	2457	80.77	19	4.41	411	95.59	6	9.23	59	90.77	609	17.22	2927	82.78	3536	2,623,207	11,665,176	14,288,383	4.44
1944	761	21.44	2779	78.56	46	7.44	574	92.56	3	5.45	52	94.55	810	19.21	3405	80.79	4215	4,000,810	14,521,496	18,522,306	3.62

* This area includes California, New Mexico, Texas, Oklahoma, Kansas, Arkansas, Louisiana, Mississippi, Illinois, Indiana, and Michigan.

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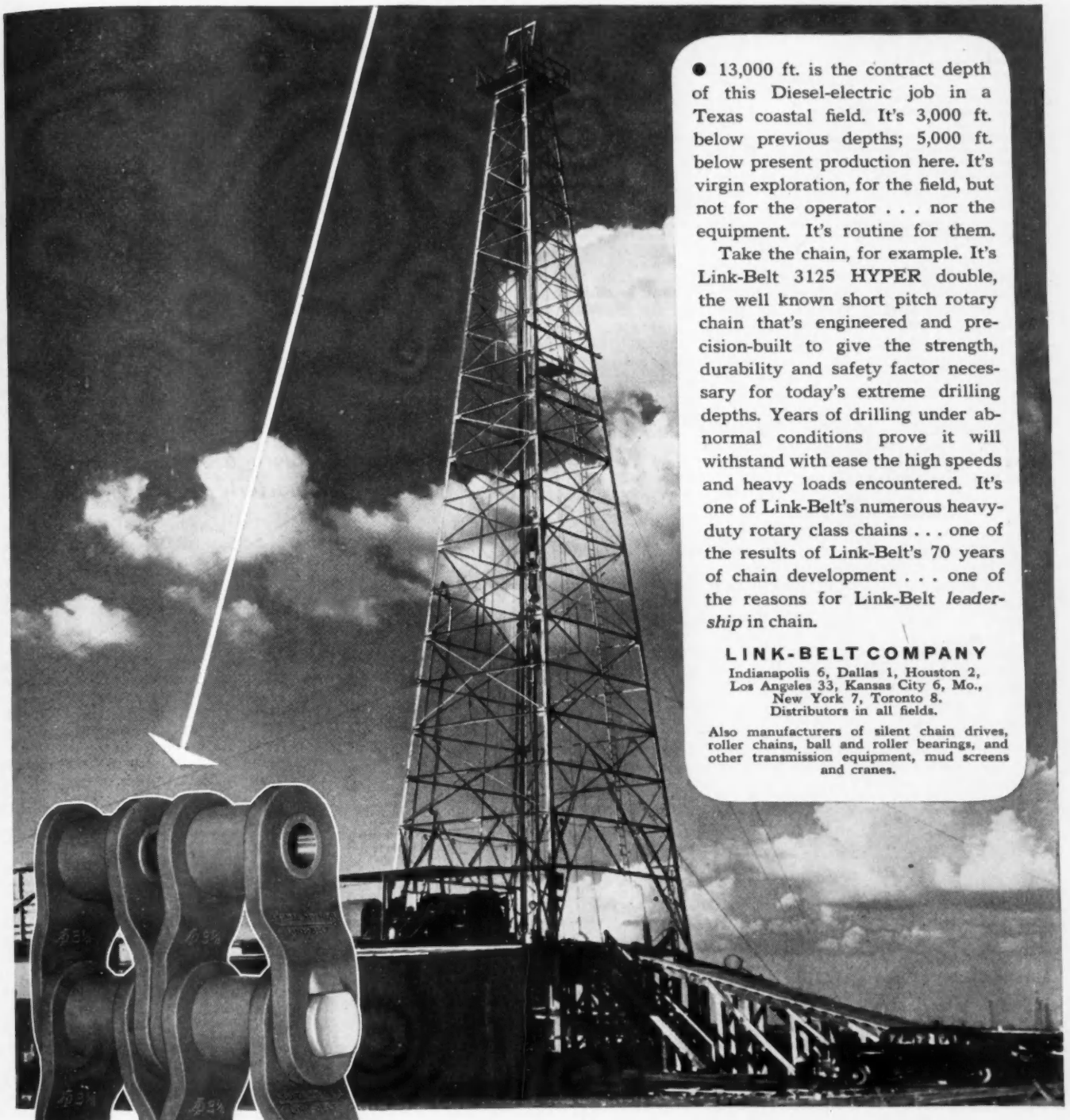

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TABLE 6

Statistics on Proved Reserves in Area of Eleven Selected States*

	1937	1938	1939	1940	1941	1942	1943	1944	1945
A. Proved reserves as of Jan. 1 of year indicated	12,241,885,000	14,664,035,000	16,630,452,000	17,723,393,000	18,226,542,000	18,816,785,000	19,260,415,000	19,070,764,000	19,347,407,00
B. Net change in proved reserves since Jan. 1 of previous year		+ 2,422,150,000	+ 1,966,417,000	+ 1,092,941,000	+ 503,149,000	+ 590,243,000	+ 443,630,000	− 189,651,000	+ 276,643,00
C. New proved reserves discovered during year indicated	896,692,000	805,293,000	337,989,000	280,882,000	423,551,000	254,801,000	271,048,000	482,430,000	.....
D. New reserves added through extensions and revisions of old fields during year indicated	2,739,254,000	2,313,356,000	1,955,507,000	1,505,816,000	1,496,610,000	1,496,536,000	963,207,000	1,393,416,000	.....
E. Total new proved reserves added (C+D)	3,635,946,000	3,118,649,000	2,293,496,000	1,786,698,000	1,920,161,000	1,751,337,000	1,234,255,000	1,875,846,000	.....
F. Production during year indicated	1,213,796,000	1,152,231,000	1,200,555,000	1,283,490,000	1,329,918,000	1,307,707,000	1,423,906,000	1,599,203,000	.....
G. Newly discovered reserves (C) per exploratory hole drilled in year indicated	417,647	321,217	133,857	97,834	137,115	83,843	76,652	114,456	.....
H. Newly discovered reserves (C) per foot of exploratory hole drilled in year indicated	109.4	93.6	39.9	28.6	37.7	21.8	11.98	26.04	.....
I. New proved reserves (E) per exploratory hole drilled in year indicated	1,693,500	1,243,976	908,315	622,326	621,612	576,287	349,052	445,041	.....
J. New proved reserves (E) per foot of exploratory hole drilled in year indicated	443.88	362.52	271.36	182.07	170.75	149.79	86.38	101.27	.....

* This area includes Arkansas, California, Illinois, Indiana, Kansas, Louisiana, Michigan, Mississippi, New Mexico, Oklahoma and Texas. All figures are in barrels. These figures on reserves are taken from the published annual reports of the American Petroleum Institute's Committee on Oil Reserves.

the advocates of this program should be reminded that much less steel is needed for a given number of new-field wildcats of average depth than for an equal footage of new-pool tests; that pipe lines are now pretty well filled and consequently new-pool discoveries might necessitate new pipe line construction; and that, even after completion of much geological and geophysical investigation, there still remains a large element of risk due to unknown geological conditions on structures that have produced oil.

Reduction Dangerous

Any reduction in the search for new productive areas, any program that would seriously limit exploration by new-field wildcats, would be a serious menace to the prospects for finding adequate oil reserves in the next few years. Beware lest the seemingly easily accomplisehd upward trend of discovery of new reserves along with the upward trend in exploratory drilling, during 1944, leads to a false impression that the same results may be as easily obtained at any time in the future.

To maintain an adequate supply of oil reserves, the search for new fields, through new-field wildcatting, should be carried on uninterruptedly and with increasing stimulation.

Landowners Delaying Work On Water-Flood Project

Opposition of some landowners is delaying work on a water flood and pressure maintenance project in the big West Edmond oil pool of Central Oklahoma. The Oklahoma Corporation Commission issued an order to 11 operators authorizing the project which field engineers declared was necessary to maintain declining bottom-hole pressure and assure a greater recovery of oil. Operators planned to gather salt water from the west side of the pool and inject it into a Hunton lime zone well which had been completed as a dry hole.

Eight landowners owning the northwest corner in 7-13n-4w, Oklahoma County, protested the order of the commission on the grounds that it was not supported by evidence and that it was unconstitutional and seeks to destroy property of the applicants without due process of law.

Colorado School of Mines Quarterly Now Available

The Department of Publications, Colorado School of Mines, Golden, Colorado, annouces publication of Vol. 40, No. 2, of the Quarterly. This issue contains the third annual "Review of Petroleum Geology in 1944," by F. M. Van Tuyl and W. S. Levings of the department of geology at the School of Mines, assisted by other members of the departments of geology, geophysics, and petroleum engineering.

This publication comprises 136 pages, the last 35 being devoted to a comprehensive bibliography. The subject matter includes important news items and constructive developments in basic geology as well as in petroleum geology and borderline fields.

Copies may be obtained from the Department of Publications, Colorado School of Mines, Golden, Colorado, at $1 postpaid.

TABLE 7

Distribution of Exploratory Wells of 1944 by Classes and Results of Drilling

		A		B		C*		D*	
		All States Included in Table II		Southern States Included in Table III		Eleven Selected States Included in Tables V and VI		States Included in Table II Except the Eleven States in Tables V and VI	
		No.	Percent	No.	Percent	No.	Percent	No.	Percent
Outposts	Producers	315	41.72	164	40.89	277	43.41	38	32.47
	Dry Holes	440	58.28	237	59.11	361	56.59	79	67.53
	Total	755	100.00	401	100.00	638	100.00	117	100.00
Shallow-Pool Tests	Producers	18	69.24	14	73.69	14	70.0	4	66.67
	Dry Holes	8	30.76	5	26.31	6	30.0	2	33.33
	Total	26	100.00	19	100.00	20	100.00	6	100.00
Deeper-Pool Tests	Producers	90	41.86	37	33.00	77	42.07	13	59.09
	Dry Holes	125	58.14	74	67.00	106	57.93	19	40.91
	Total	215	100.00	111	100.00	183	100.00	32	100.00
New-Pool Wildcats	Producers	179	25.35	101	28.53	145	22.79	34	48.57
	Dry Holes	527	74.65	253	71.47	491	77.21	36	51.43
	Total	706	100.00	354	100.00	636	100.00	70	100.00
New-Field Wildcats	Producers	342	11.03	157	11.62	297	10.85	45	12.61
	Dry Holes	2752	88.97	1196	88.38	2441	89.15	311	87.39
	Total	3094	100.00	1353	100.00	2738	100.00	356	100.00
	Total Producers	944	.....	473	.....	810	.....	134	.....
	Total Dry Holes	3852	.....	1765	.....	3405	.....	447	.....
	Grand Total	4796	.....	2238	.....	4215	.....	581	.....

* The horizontal totals of Column C and D equal the items in Column A.

Texas Field Named

Crown Central Petroleum Corporation's new oil discovery in Jackson County, Lower Texas Coast, has been named the Moody Branch field, Joe Ward, chairman of the Oil Field Nomenclature Committee of the South Texas Geological Society, has announced. The discovery well was the W. L. Moody 1, Nancy McFarland survey, Abstract 42.

Fire-Fighting Test

Under the supervision of engineers of the Standard Oil Company (Ohio) a series of fire-fighting tests were conducted in Findlay, Ohio, in an effort to determine the results obtainable by the use of mechanical foam in several ways and water fog under various pressures. Burning oil in a steel tank shell, 93 feet in diameter was used.

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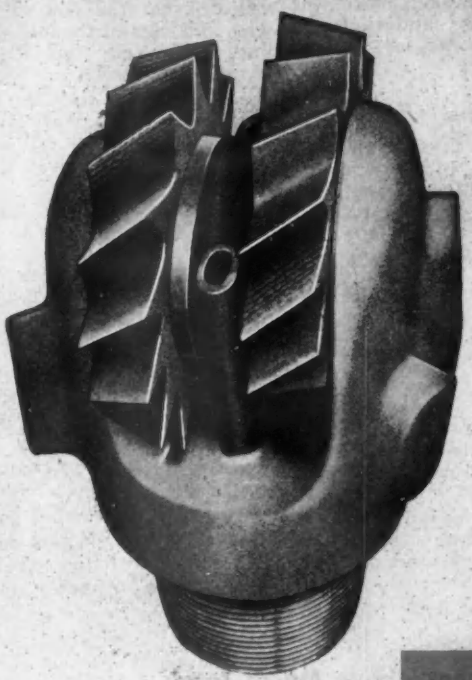

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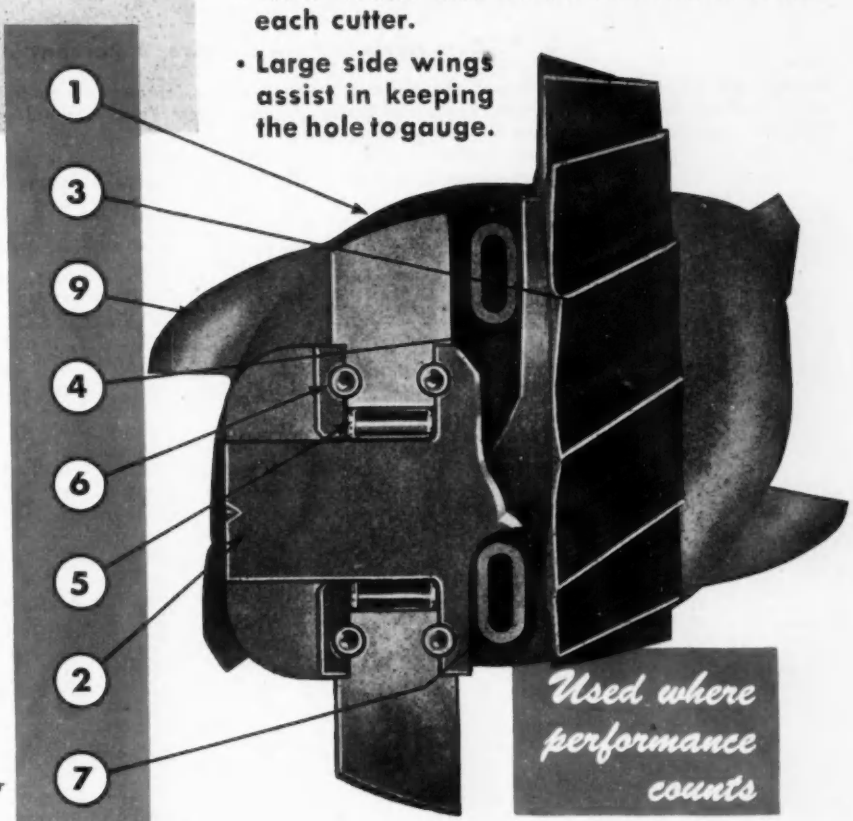

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April Drilling Shows New Gain

REFLECTING the seasonal trend of increased activity as spring advances over the United States, drilling showed an increase of 56 wells weekly for the four weeks ending April 28, as compared with March. The April weekly average of 504 wells represents a gain of 9 percent over the March total of 448 wells.

While the percentage gain is slightly below that indicated by PAW as the goal for 1945 drilling, the April total is within a few wells of the figure reached for the same period last year. As was pointed out last month, the percentage of gain during the first quarter of this year was above the PAW estimate regarded as necessary to reach the 27,000 wells. With the most favorable months for drilling ahead, it is quite likely that the figures for May will approach more closely the PAW percentage, and that the total will hold fairly steady for the next few months.

Demand Remains

It is too early to arrive at any appraisal of what effect ending of the war in Europe will have on drilling, if any. With intensification of the air war on Japan a certainty, however, and the problem of moving vast armies to the Pacific theatre of operations an immediate objective, there is still an enormous military demand for oil, and there can be no slackening of effort to have supplies of oil where they are needed.

Increases for April were fairly well distributed throughout the various oil producing areas. Texas led and most of the districts within the state reported gains. Each of the other states in District 3 showed gains also.

By classification, completions for April were as follows: oil producers, 1072; gas, 196; dry, 560; others, 161; and old wells deepened, 28.

Total footage drilled during April was 6,962,481 feet, as compared with 6,764,442 feet in March.

Operations at the end of the month showed 3832 rigs of the following status: drilling, 3450; rigs up, 382; rigs shut down, 542; outfits rigging up, 43.

Of the 14 states showing a decrease in activity for April, California showed the heaviest drop, with 131 completions reported as compared with 205 for March.

The number of states showing decreases for the month is in close conformity with those showing declines for the period from January to April. During this period, 13 states failed to show any gains in activity.

The southeastern section, including Mississippi, Alabama, Georgia and Florida, where the prospecting trend is heaviest, failed to show appreciable gains in April.

Wyoming reported 19 completions for April as compared with 10 in March, and probably will show further gains during this month due to weather more favorable to field activities. The Eastern states will also probably fall in this category.

U. S. Completions in April Are 9 Percent Above March Total

(Figures compiled from weekly reports of editorial men, with following exceptions: Illinois from Illinois Geological Survey; Indiana from Indiana Division of Geology; Missouri from Missouri Geological Survey; Allegany, New York, Bradford and Kane-Clarendon, Pennsylvania, from the Producer's Monthly; Tennessee from Tennessee Division of Geology.)

State or District	MONTHLY COMPLETIONS: April, 1945 — Details for April, 1945 — New Wells: *Oil	Gas	Dry	Others[6]	Old Wells Deepened	Total Completions: April, 1945[1]	Mar., 1945[3]	April, 1944[2]	Total Footage April, 1945	CUMULATIVE COMPLETIONS: First 4 Months — Details, Jan.-April, 1945 — New Wells: *Oil	Gas	Dry	Others[6]	Old Wells Deepened	Total Completions: Jan.-April, 1945[4]	Jan.-April, 1944[5]	Percent Change in Weekly Average	Total Footage 4 Months, 1945	RIGS IN OPERATION — Details for April 1, 1945: Drilling	Rigs Up	Shut Down	Total: Drilling and R. U.: April 30, 1945	Mar. 31, 1945	April 30, 1944
Alabama	1		1			2	1	4	6,316	1		5			6	6		25,206	3		2	3	7	5
Arizona								1								3								2
Arkansas	10		4			14	6	25	67,439	21	1	19		1	42	68	— 38.2	172,687	28		11	28	29	31
California	111	2	18			131	172	205	515,742	542	9	82		5	638	636	+ 0.3	2,575,877	258	58	24	316	276	376
Colorado	4					4			23,397	9		2			11	8	+ 37.5	60,287	17	4	2	21	20	12
Florida							3					4			4			34,349	6			6	4	2
Georgia			1			1			4,006			3			3	1	+200.0	12,928			2		2	1
Illinois	69		47	1	8	125	98	142	261,830	284		182	3	57	526	521	— 1.0	1,112,615	150	23	36	173	133	185
Indiana	9	2	13			24	19	17	32,121	30	6	55		1	92	95	— 3.2	147,875	21	16	11	37	21	29
Iowa												1			1	2	— 50.0	1,250	1			1	1	1
Kansas	51	10	56		7	124	135	147	400,170	202	35	206	2	23	468	584	— 19.9	1,504,086	220	18	25	238	242	278
Kentucky	8	5	11	1	1	26	22	79	44,842	53	26	63	1	1	144	223	— 35.4	280,781	27	19	7	46	16	62
Louisiana	52	4	32			88	62	66	655,612	185	19	95		2	301	211	+ 42.7	2,406,672	171	17	42	188	190	131
North	12	4	13			29	11	21	132,446	40	15	41			96	64	+ 50.0	470,633	48	8	37	56	64	45
South	40		19			59	51	45	523,166	145	4	54		2	205	147	+ 39.5	1,936,039	123	9	5	132	126	86
Michigan	34	3	39			76	40	50	202,812	104	6	126			236	185	+ 27.6	645,348	118	19	24	137	99	109
Mississippi	15		15			30	32	10	183,152	63	3	54			120	34	+252.9	795,065	62	5	5	67	64	38
Missouri			5			5	2	3	7,140	2		13			15	6	+150.0	27,158	3	3	3	6	8	7
Montana	11	1	2			14	17	25	29,891	41	7	13			61	85	— 28.2	166,051	50	3	4	53	52	71
Nebraska							1					2			2	7	— 71.4	7,018	1		1	1	1	1
New Mexico	26	2	6			34	38	30	108,732	107	5	45		1	158	135	+ 17.0	556,756	77	5	10	82	91	83
New York	70			40		110	76	102	147,830	198		2	111		311	392	— 20.7	415,287	94	13	24	107	73	104
North Dakota																								4
Ohio	13	22	34			69	55	75	175,611	54	86	105			245	268	— 8.6	648,132	158	22	39	180	170	175
Oklahoma	109	7	60	1	1	178	168	143	763,955	459	32	215	10	14	730	495	+ 47.5	3,176,728	459	30	64	489	483	371
Pennsylvania	132	15	3	117		267	235	240	454,261	457	57	10	399	5	928	900	+ 3.1	1,567,546	251	41	58	292	262	276
South Dakota																								1
Tennessee			1			1		2	2,183			1			1	5	— 80.0	2,183	1			1		6
Texas	328	82	200	1	8	619	546	561	2,645,596	1,294	241	728	17	32	2,312	1,792	+ 29.0	10,309,024	1,139	66	114	1,205	1,244	953
E.Tex.Border		6	1			7	11		42,543	1	19	7			27	4	+575.0	177,840	30	2	5	32	30	9
E. Tex. Field								2								3							1	
R. of E. Tex.	6		11			17	12	28	116,361	29	3	31		1	64	95	— 32.6	435,857	40	3	11	43	51	53
North	74		52		1	127	100	127	292,276	267	4	211	16	4	502	414	+ 21.3	1,209,450	129	10	21	139	162	149
West Central	24	13	25			62	32	38	157,630	58	21	70		2	151	127	+ 18.9	402,078	65	6	31	71	89	51
West	98	3	43		6	150	145	158	671,204	444	4	142		16	606	491	+ 23.4	2,828,150	453	13	28	466	473	410
Panhandle	15	44	3		1	63	49	23	214,851	64	126	14		4	208	67	+210.4	659,085	116	7	6	123	133	50
Upper Coast	28	5	27			60	63	58	448,161	136	18	74		3	231	161	+ 43.5	1,691,785	90	8	5	98	96	71
Lower Coast	52	8	20			80	84	85	488,706	194	36	98		1	329	280	+ 17.5	2,091,256	147	11		158	125	103
Southwest	30	3	15			48	39	35	188,840	90	10	67		1	168	121	+ 38.8	680,749	50	3	3	53	66	46
S. Central	1		3	1		5	11	7	25,024	11		14	1		26	29	— 10.3	132,774	19	3	4	22	18	9
Utah																								3
West Virginia	5	41	7		3	56	62	83	139,080	15	178	33		14	240	306	— 21.6	618,045	76	12	19	88	72	47
Wyoming	14		5			19	10	14	90,763	44	1	12			57	52	+ 9.6	267,700	59	8	15	67	64	43
Total U. S.	1,072	196	560	161	28	2,017	1,800	2,024	6,962,481	4,165	712	2,076	543	156	7,652	7,020	+ 9.0	27,536,654	3,450	382	542	3,832	3,624	3,407

* Includes distillate wells. [1] Wells completed in 4 weeks, or 28 days, ended April 28, 1945. [2] Wells completed in 4 weeks, or 28 days ended April 29, 1944. [3] Wells completed in 4 weeks, or 28 days, ended March 30, 1945. [4] Wells completed in 17 weeks, or 119 days, ended April 28, 1945. [5] Wells completed in 17 weeks, or 119 days, ended April 29, 1944. [6] Water input, gas injection, and salt water disposal wells.

Trailer-Mounted Lighting Plant Speeds Night Emergency Operations

FIELD REPAIRS

One of the greatest aids to the night production crews of one production company is the small portable light plant shown in the illustration. Inexpensive to build, the handy unit consists of a light single-cylinder engine-driven generator mounted on a small two-wheeled trailer, the latter having two adjustable pipe "feet" at the rear end which can be let down and clamped into position to support the bed in a horizontal position. Bolted to each of the two sides of the trailer is a length of pipe, to the ends and middle of which are welded short uprights, the latter terminating in half-loops or hooks on which may be hung light cables, cordage, etc.

In the daytime the trailer serves as a small centralized base on which may be stored tools and miscellaneous equipment. The unit is meant to be set up close to the scene of activities and to provide only enough current to supply light for the small or emergency type of night job. Since it is intended that it be set up close to the rig it is taken for granted that it will receive rough treatment, and be sprayed with oil and water.

An important part of this small unit is the extensible light standard which may be moved about the rig floor. A 11¾-inch thread protector with a circular plate welded across its top serves as a base. A collar welded to the center of this disc and a telescoping series of short lengths of pipe provide any desired height of the reflector at the top of the stand.

Locking Tee Prevents Unauthorized Valve Manipulation

VALVE PROTECTION

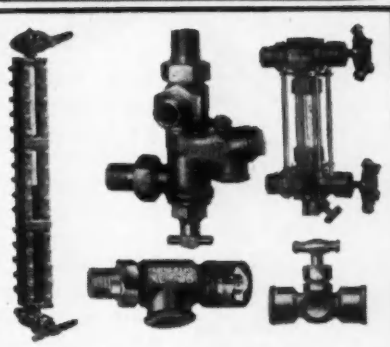
Operators of town-lot wells are beset continuously with the problem of preventing vandals or inquisitive children from turning valves or molesting equipment. Such meddling could easily result in many thousands of dollars damage and suits by property owners. One producer in a congested area of the Wilmington, California, field locks his plug-type valves by removing the handle, then palcing an inverted 2-inch pipe tee over the valve stem. A light chain is looped through the open ends of the tee and around the valve body, then padlocked.

While the idea of locking exposed valves is not new, the more easily-turned plug-type valve is not so readily protected as is the case of gate valves where hand wheels may be removed and packing glands tightened down to prevent molestation. The simple method illustrated has another advantage in that the grease plug cap screw in the center of the plug shaft is out of harm's reach, instances being known where children had used a nail or similar object to turn out the screw, then poured dirt or pebbles into the grease chamber.

A variation of the device involves blind welding the runs of the tee, with the chain links carried on the blinds. This completely protects valve stem.

$5.00 is paid for each illustrated acceptable contribution. Mail to The Editor, THE OIL WEEKLY, P. O. Box 2608, Houston 1, Texas

PENBERTHY
QUALITY PRODUCTS



Penberthy liquid level gages of various types—injectors—ejectors—all so widely used throughout the oil industry because they have always been dependable under the most severe service conditions.

All are of rugged construction and made by an organization with 57 years experience in the manufacture of quality products.

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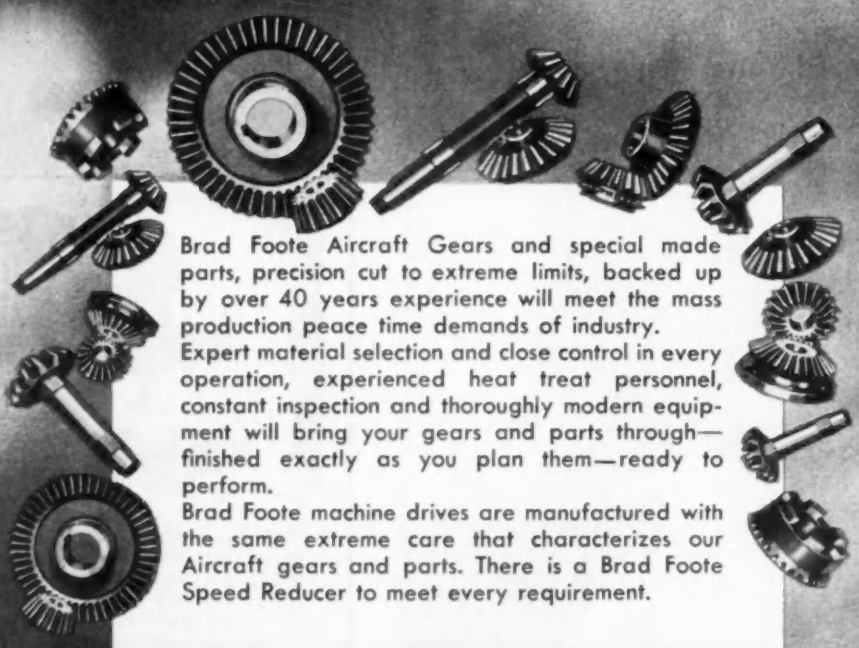

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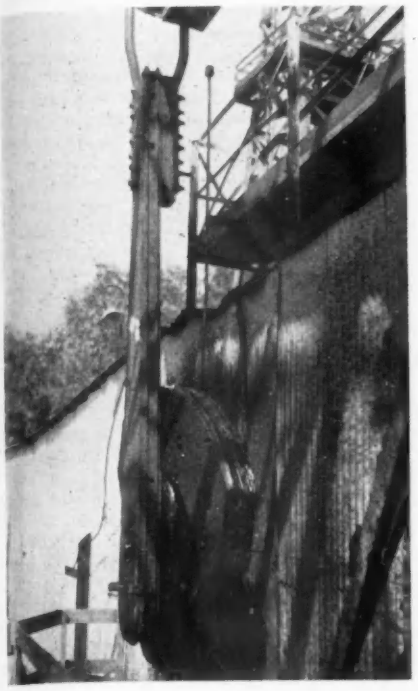
Steel Rod Reinforcement Extends Wooden Pitman Life

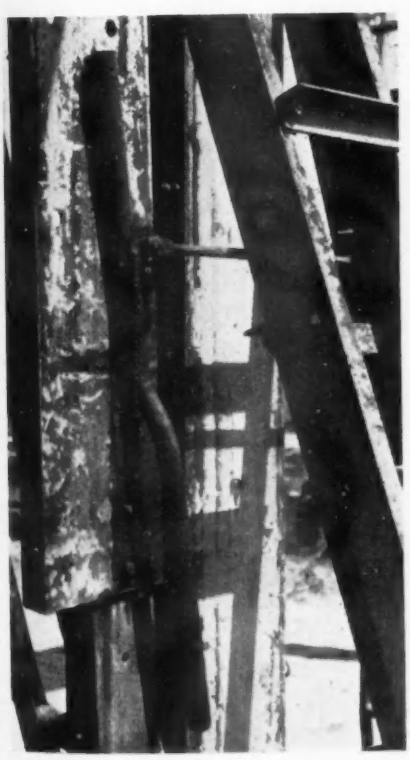


PUMPING UNIT

Prevention of splintering and deterioration of the wooden pitman on standard-end types of pumping units may be retarded considerably by strapping around it bands of steel rod similar to the installation shown in the photograph. Two light rods side by side were bent completely around the edge of the pitman and tightened up firmly, the threaded ends of the upper ends permitting subsequent tightening in the future as the rods stretch or bite more deeply into the wood. The lower end of the pitman is where splintering or "spreading" of the grain usually begins to occur, due to continuous beating—however slight—of the crank pin inside the bearing hole, and by binding the pitman in this manner at the earliest possible time after installation of the pitman, the beam will remain rigid and serviceable for many years.

Also shown in the photograph is the extension pipe used for lubricating the crank bearing. Ordinarily the pumper, with some risk, has to reach behind the revolving counterweight, but in the set-up shown, he can fill the oil cup screwed to the upper end of the long ¼-inch pipe, the latter, incidentally, serving as a reservoir in case of emergency when the pumper is unable to make his rounds on schedule.

Remote-Controlled Locking Lever Actuates Clutch



PUMPER OPERATION

A work-saving and positive-locking remote controlled clutch lever may be built out of a 5-foot length of 1½-inch pipe and installed on the sampson post of the pumping well in the manner shown in the photograph. At convenient height a hole is drilled through the post and a bolt run through it on which is suspended and pivoted the length of pipe, the latter being bent to facilitate handling by the pumper.

Pivoted at the upper end, the lever may be locked in any desired position by means of a pin run through the pipe and which matches any one of a number of similar holes drilled along an arc about 10 inches long in the side of the sampson post. The control rod is bolted to a lip of metal welded to the lever midway between the pivot and locking holes.

A short piece of light chain, such as used for running a thief, is fastened to the lever body, with the set pin on the free end, so that the pin is always handy when the unit is to be fixed at any point. The chain is made long enough so that the pin will reach at any point on the quardant, yet will not foul the supporting bracket when the lever is carried as far forward as possible.

Clean Out with a MILLER Sand Pump

Refer to Composite Catalog page 1907 for description and prices.

Miller Sand Pump Co.
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OKLAHOMA CITY 9, OKLA.

BE SURE TO CHECK . . . .

TRADING POST SECTION

ON PAGE 88 OF THIS ISSUE

Because of the scarcity of certain types of new equipment and the fact that some operators may have a surplus of some items and a serious shortage of others, **this Used Equipment Forum** is performing a valuable service to operators in locating needed used materials or disposing of surpluses that may be needed by others.

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Strong Competition for Venezuela Is Expected Soon from Middle East

Venezuelan oil will soon meet strong competition, especially in European markets, from the Middle East, it was predicted by Arthur T. Proudfit, president of Creole Petroleum Corporation.

After the war, Proudfit said in his annual report to Creole stockholders, "the outlook for Venezuelan oil in world markets will depend upon Venezuela's ability to supply the types of crude which are then in demand, and to deliver them to the chief consuming markets at a price which is competitive with the crudes coming from other large producing areas. Strong competition, especially in European markets, must be expected from the Middle East, where production has been substantially increased under the stimulation of war."

More Products

However, he added, Venezuela is in a better competitive situation than in the past, since it now can supply medium and light crudes as well as heavy.

During 1944, the report showed, Creole produced 136,386,997 barrels of oil, an increase of 44 percent over 1943, and exported 136,000,000 barrels of crude and products, an increase of 39 percent.

To obtain the required increase in production, three times as many development wells were drilled as in 1943 and exploration efforts were expanded by drilling three times the footage of exploratory wells. Of 196 development wells drilled, 185 produced oil, as did 15 out of 27 exploratory wells, it was reported, and the company's estimated reserves were increased by upwards of 500,000,000 barrels after deducting oil withdrawn in 1944.

Proudfit reported that Creole made royalty and tax payments to the Venezuelan government last year of approximately $40,000,000, compared with $29,889,000 paid by Creole and Lago combined in 1943. In addition, the company spent in Venezuela $15,558,000 for salaries, wages and local purchases.

Refinery Planned

Creole is to build a new refinery in Venezuela with a capacity to process at least 40,000 barrels a day, at an estimated cost of $50,000,000, of which $10,000,000 will be spent for housing, schools and medical and recreational facilities for employes.

The report showed that the company earned $2.33 a share on 26,606,610 shares for a total of $62,020,396, in 1944. Since this was the first full year of operation following the acquisition of the Venezuelan properties of Lago Petroleum Corporation by Creole, 1944 earnings are comparable to combined Creole and Lago earnings of $1.07 a share, or a total of $28,559,169, in 1943.

Mulata Production May Be Doubled by 1945 Activity

Creole Petroleum Corporation-Pantepec Oil Company of Venezleua plans for 1945 include the drilling of 50 more wells in the Mulata field of Maturin Monagas, Venezuela. The program will involve considerable extension drilling in semi-proved territory and some deep testing in the field proper.

The field had 102 producing wells at the end of March, 12 of which have been completed since the first of the year. At least four rigs will be used continuously at Mulata throughout the year. By the end of 1945 the daily rate of production of the field is expected to amount to approximately 40,000 barrels, as compared with about 20,000 barrels at the present time, and an average of 16,100 barrels daily for all of 1945.

Imperial Oil Increases Mackenzie Valley Holdings

Under the terms of new regulations established by the Canadian government, Imperial Oil Company has taken up new exploration permits covering 2 million acres in the Mackenzie valley area.

The regulations stipulate that the permit area must be reduced by half within six years, after which a final selection of a maximum of 350,000 acres may be taken up for development. Old leases and permits are to remain in force. The latter include 140,000 acres in which the Norman Wells field is situated.

Foreign Standard Holdings Involve 300 Million Acres

Approximately 300 million acres of territory are involved in the foreign holdings of wholly-owned subsidiaries of the Standard Oil Company of California and joint partnership companies of the Cal-Tex group.

The subsidiary California Standard company holds leases in Alberta, Canada, totaling 390,380 acres. Another subsidiary, Richmond Petroleum Company, holds concessions in Venezuela amounting to 2,866,770 acres with a joint interest in an additional 45,885 acres. The latter company also controls concessions in Colombia to the extent of 901,995 acres, plus participating exploration and exploitation interests in 123,552 acres of Colombian lands.

Arabian American Oil Company's (Cal.-Tex.) concession properties in Saudi Arabia total 278,272,000 acres. The affiliated Behrein Petroleum Company holds the rights to the entire area of Bahrein Island, amounting to 128,000 acres, and by agreement with the Shaikh of Bahrein will acquire the rights to islands, shoals, reefs and submerged lands adjacent to Bahrein, over which the Shaikh has laid claims of jurisdiction.

It is presumed that concessions acquired by the N. V. Nederlandsche Pacific Petroleum Maatschappij, in the Netherlands East Indies, will be valid as of the date of recovery of the islands from the Japanese. Standard Oil Company of California has a half interest in this company and had invested more than $6,000,000 in concession fees and exploration expenses at the end of 1941. Acreages involved have not been announced by the company. The company has discontinued its interest in New Zealand explorations, after investing more than $500,000 in wartime ventures there.

Four Drilling Operations Now Underway in Barco

Three drilling operations were in advanced stages in the Socuavo field, Barco concession, on April 11, and on the same date Tres Bocas 4, proposed deep test to the Cretaceous in the adjoining closure area to the south, was being electric logged, shut down at 3150 feet, apparently to secure detailed correlation information on the Eocene section before being carried on down to lower levels.

Socony Has Five Venezuela Operations in Progress

Socony-Vacuum Oil Company had five drilling operations in progress April 11 in Venezuela. Drilling was virtually at completion depth at the No. 12 location in the Guario field (6235 feeet).

In the Guico field, northwest extension of the Mene Grande-Creole West Guara field, well No. 5 was drilling at 6630 feet, No. 7 was standing cemented at 7001 feet, and No. 8 was drilling at 6875 feet.

The company's San Vicente 1 wildcat, in eastern Barinas, was drilling at 6644 feet.

New Shipping to Increase Output of Peruvian Field

Although production of the Agua Caliente field, eastern Peru, was increased from approximately 30,000 barrels in 1943 to more than 45,000 barrels in 1944, operations were curtailed throughout the year due to lack of adequate field storage tank capacity and river shipping facilities.

The outlook for 1945 indicates considerable improvement in the situation, since a fleet of three tow boats and 12 tanker barges has been put into service on the Ucayali River since the first of the year, to transport gasoline, kerosine, diesel and fuel oil from the field refinery at Pucalpa to the port of Iquitos on the Amozan. These new units may make possible the full time operation of the nine producing wells in the field, at a combined producing rate of approximately 500 barrels per day, with all crude produced being run through the refinery.

Stocks of Gasoline and Residual Fuel Drop in Spite of High Refinery Runs

Demand for petroleum and products continued heavy in the week ended May 5, as evidenced by withdrawal of an unusually large volume of gasoline from storage, a further reduction of residual fuel oil stocks to a new low since the early 1920's, and only a moderate addition to stocks of distillate fuel oil for this season of the year. These changes in stocks occurred while crude production was at a new all-time high and while crude runs to stills were within 17,000 barrels of the highest recorded daily average.

Crude output of the nation averaged 4,839,000 barrels daily, up 34,000 from the week before and 28,000 a day above the previous peak of several weeks ago. The production was 321,000 barrels a day or 7 percent higher than in the corresponding week last year. Crude runs to stills averaged 4,786,000 barrels daily, an increase of 6000 over the week before and 438,000 a day or 10 percent more than runs in the week ended May 6 last year. Stocks of refinable crude totaled 223,474,000 barrels April 28, up 545,000 from a week previously but about 12 million barrels or 5 percent under the storage of 235,342,000 barrels held a year earlier.

Production of gasoline, including natural blended at refineries, totaled 14,846,000 barrels in the week ended May 5, an increase of 213,000 over output in the previous week and 1,886,000 barrels or nearly 15 percent more than the production of 12,960,000 barrels in the like week a year ago. Stocks of finished and unfinished gasoline were reduced by the large amount of 2,727,000 barrels during the week, having come down to 91,341,000 barrels. They then were within about 3 million barrels or 4 percent of the 88,186,000 barrels reported for the corresponding date a year ago. Of the 2,727,000-barrel draft on gasoline stocks, a little over half, that is, 1,482,000 barrels, came from stocks of military and other grades and 1,245,000 barrels from stocks of civilian grade. On May 5 the total inventory of military and other grades was reported at 41,620,000 barrels, as compared with 43,102,000 barrels a week previously, and as compared with 37,389,000 barrels a year previously. Stocks of civilian grade totaled 49,721,000 barrels, against 50,797,000 a week earlier and 50,797,000 a year previously. Present stocks of civilian grade therefore are a million barrels lower than a year ago, although potential demand is greater.

Gas oil and distillate fuel oil production totaled 4,695,000 barrels in the week ended May 5, up 59,000 from the week before and 402,000 barrels or 9 percent more than output in the corresponding week last year. Stocks of distillate were increased 527,000 barrels during the week, having risen seasonally to 28,800,000 barrels, but that amount was 1½ million barrels or 5 percent less than the 30,356,000 barrels held May 6 last year.

Residual fuel oil production totaled 9,278,000 barrels in the week ended May 5, down 101,000 barrels from the output of the previous week although 335,000 barrels or about 4 percent above that in the like week last year. Stocks again were reduced, having come down 310,000 barrels within the week to 39,503,000 barrels, a new low since shortly after World War I. That amount was 11 million barrels or 22 percent less than the 50,548,000 barrels held May 6 last year.

Restrictions on Pumps And Tanks First Lifted

First easing of the restrictions on civilian oil operations after V-E day was the release of pumps and tanks originally set aside for the military. Release was ordered by PAW, which explained that restrictions on production of new equipment will continue.

Through PAO 12, dispensing pumps and storage tanks may be installed in retail outlets and other improvements made when the combined cost of equipment and material for the installation does not exceed $1000. The same types of installation and improvements may be made in bulk plants when the combined cost does not exceed $5000.

Trends of Operations and Changes in Stocks

Figures on crude stocks are from Bureau of Mines weekly reports; all others from American Petroleum Institute weekly reports, which are estimates on Bureau of Mines basis.

(All figures in thousands of barrels—add 000)

HIGHS AND LOWS OF RECENT YEARS

ITEM	Crude Oil Prod. Barrels Daily	Crude Oil Prod. Week Ended	Runs to Stills Barrels Daily	Runs to Stills Week Ended	Crude Stocks Barrels	Crude Stocks Week Ended	Gasoline Stocks Barrels	Gasoline Stocks Week Ended	Gasoil and Distillate Stocks Barrels	Gasoil and Distillate Stocks Week Ended	Residual Fuel Oil Stocks Barrels	Residual Fuel Oil Stocks Week Ended
Highs:												
1941	4,337	11-22	4,120	10-18	266,187	3-29	99,727	3-29	[5]54,983	11-15	102,448	1- 4
1942	4,337	2- 7	3,961	1- 3	263,208	3-28	[1]109,281	3-14	47,861	11-14	95,857	1- 3
1943	4,436	11-13	4,331	12- 4	245,752	5-29	94,159	3-20	47,187	11-27	72,881	1- 2
1944	4,762	9-30	4,798	12-30	240,992	1- 1	89,162	4- 1	48,863	10-28	64,744	10- 7
1945	4,839	5- 5	[4]4,803	2-24	223,782	4- 7	99,012	3-24	38,298	1- 6	56,074	1- 6
Lows:												
1939	[3]1,601	8-26	3,125	2-18	[2]229,127	10-12	71,152	10- 7	20,722	4-15	105,397	4- 8
1941	3,364	1-11	3,490	1-18	240,399	11-15	79,923	10- 4	28,382	4-12	90,914	7-12
1942	3,297	7- 4	3,393	5-23	231,896	12-12	75,934	12- 5	29,240	4-25	72,962	12-26
1943	3,821	1- 9	3,579	3-13	232,191	1- 9	68,182	10-16	30,732	4- 3	57,596	12-25
1944	4,357	1- 1	4,228	2-12	220,258	9- 9	76,302	1- 1	30,232	4-19	49,737	3-18
1945	4,678	1- 6	4,656	1- 6	[4]218,675	3- 3	86,616	1- 6	26,483	3-17	39,503	5- 5

TRENDS OF 1944 AND 1945

Trends in Week Ended:	Crude Oil Production Daily	Crude Oil Runs to Stills Daily	Crude Oil Stocks Week End	Gasoline Production Weekly	Gasoline Stocks Week End	Gasoil and Distillate Production Weekly	Gasoil and Distillate Stocks Week End	Residual Fuel Production Weekly	Residual Fuel Stocks Week End
1944:									
January 1	4,357	4,453	240,992	13,192	76,302	4,575	42,310	9,141	57,330
January 29	4,409	4,359	240,251	13,427	81,075	4,054	37,266	8,889	52,857
February 26	4,423	4,377	237,137	13,183	85,248	4,558	33,766	8,952	51,387
March 25	4,385	4,443	236,285	13,362	87,287	4,979	31,319	9,013	51,669
April 1	4,383	4,435	234,667	13,824	89,162	4,450	30,530	8,367	51,326
April 29	4,431	4,300	235,342	13,126	88,342	4,284	30,236	8,398	49,985
May 27	4,514	4,532	234,423	13,502	86,468	4,702	32,035	8,568	49,812
July 1	4,587	4,638	228,860	14,052	83,559	4,496	35,360	8,872	52,235
July 29	4,608	4,627	225,112	14,115	82,665	4,833	38,135	8,900	56,280
August 26	4,667	4,698	222,931	14,112	80,740	4,566	41,453	8,680	59,839
September 30	4,762	4,775	222,393	14,494	78,028	4,622	45,329	9,292	64,226
October 28	4,740	4,658	223,235	14,117	79,058	4,772	48,705	8,985	64,382
December 2	4,712	4,693	221,591	14,853	80,427	4,082	45,832	8,981	61,727
December 9	4,704	4,552	220,258	14,611	80,880	4,056	44,436	8,923	60,458
December 16	4,695	4,537	222,075	14,145	82,747	4,353	42,413	8,727	59,280
December 23	4,729	4,682	222,575	14,635	83,355	4,605	40,846	8,798	58,509
December 30	4,705	4,798	222,998	15,342	86,614	4,257	39,495	9,156	57,430
1945:									
January 27	4,727	4,756	221,310	14,957	88,223	4,843	33,651	9,252	51,119
February 24	4,777	[4]4,803	219,351	15,500	95,972	4,958	28,753	9,084	46,713
March 31	4,781	4,677	223,782	14,644	98,758	4,548	26,889	9,184	41,745
April 7	4,783	4,686	220,871	14,244	98,015	4,493	27,037	9,359	41,320
April 14	[4]4,811	4,770	221,024	14,270	97,410	5,006	27,886	9,137	41,538
April 21	4,798	4,676	222,929	14,677	95,104	4,576	28,219	9,303	40,492
April 28	4,805	4,780	223,474	14,633	94,068	4,636	28,273	9,379	39,813
May 5, 1945	**4,839**	**4,786**	.....	**14,846**	**91,341**	**4,695**	**28,800**	**9,278**	**39 503**
May 6, 1944	4,518	4,348	[5]235,342	12,960	88,186	4,293	30,356	8,943	50,548
Change:									
In week	+34	+6	+545	+213	—2,727	+59	+527	—101	—310
In year	+321	+438	—11,868	+1,886	+3,155	+402	—1,556	+335	—11,045
In year	+7.1%	+10.1%	—5.0%	+14.6%	+3.8%	+9.4%	—5.1%	+3.7%	—21.9%

[1] All time peak. [2] Lowest between January, 1922 and July 1, 1944. [3] Lowest since October, 1922 due to shutdown of six Mid-Continent states. [4] Lowest since December, 1921. [5] Stocks, April 29, 1944.

35 Million Barrels of Oil Tied Up in U. S. Pipe Lines

Approximately 35 million barrels of crude and products is tied up at all times in the 140,000 miles of pipe lines operating in the United States, it was estimated last week by PAW.

To this extent, it was pointed out, stock figures are confusing, since the 35 million barrels in the lines cannot be pulled out for emergency use but must be carried so they can function.

The "Big Inch" pipe line carries a fill of some 3,836,000 barrels of crude and the "Little Big Inch" 2,870,000 barrels of products.

Two-Year Extension of Cole Pipe Line Act Voted

A two-year extension of the Cole Pipe Line Act was voted by the House May 7, without debate.

The bill would extend until June 30, 1947, the authority under which assistance was given to pipe line construction in the acquisition of rights-of-way.

India-China Pipe Line Now Oils Allied War Machine

Vigorous expansion of the 14th Air Force in China has been made possible by the completion of a pipe line from Calcutta to China.

The last 400-mile link has been thrust into China from northern Burma and gasoline and oil are being fed the United Nations' far eastern war machine. Engineers estimate the portable line can carry double the amount of fuel that could be trucked over the Stilwell road.

The line is the longest in the world, but its exact length is withheld for security reasons. It was built by soldiers from Texas, Oklahoma and other oil-producing states with the aid of Chinese workmen.

Panhandle Will Expand Transmission Facilities

Panhandle Eastern Pipe Line Company with large holdings in the Hugoton gas area of Oklahoma and Kansas plans to expand its transmission facilites to increase its daily delivery gas capacity by 50 million cubic feet.

In order to meet these requirements the company has sold 10 million dollars principal amount of 20-year first mortgage lien 2¾ percent series "D" bonds to a group of fire insurance companies, according to an announcement by William G. Maguire, chairman of Panhandle Eastern board.

Bids to Be Accepted on Line from Rangely Field

Specifications will shortly be sent to contractors for bids to lay 152 miles of 10-inch crude oil line from the Rangely pool to a connection with an existing line to Lake City, Wamsutter, Wyoming, for Utah Oil Refining Company of Salt Lake City. The work will be under the supervision of the Stanolind Pipe Line Company. The line will have a capacity of 17,000 barrels of oil per day and will serve the new Rangely oil pool.

The project will utilize new pipe. A two-wire telephone line will be constructed from Rangely to Baggs, a distance of 104 miles, where connection will be made with existing communication systems from Iles Dome, Colorado, to Wamsutter. The project also includes laying of a gathering system in the Rangely pool consisting of 27 miles of two to 12-inch lines, a pump station and other miscellaneous buildings.

Aerial survey of the right-of-way is being made, much of which will pass over government-owned land. The project is expected to get under way sometime in May with completion about September.

Residual Gas from Plant In Oklahoma Is Sought

The Charles Eneu Johnson and Company has applied to the Oklahoma Corporation for permission to purchase and use residual gas from the natural gasoline plant of the Warren Petroleum Corporation in the Cumberland pool near Madill, Oklahoma.

The Johnson company operates a carbon black plant near Stonewall, Oklahoma, and the Defense Plant Corporation contemplates the immediate construction of a pipe line to transport the residue gas from the Warren plant. Approximately 8 million cubic feet of residual gas is available daily and will be used in the manufacture of carbon black. The commission has set May 22 as the date for a hearing.

Hugoton Area Carbon Black Plant Nearly Complete

Completion of United Carbon Company's furnace-type carbon black manufacturing plant near Ryus in Grant County, Kansas, in the Hugoton gas area, is expected in May. The plant has three furnaces in operation and processes 21 million cubic feet of gas daily which is being made into black for the manufacture of synthetic tires.

Two other furnaces nearing completion will bring the daily capacity to 28 million cubic feet. Under the furnace process the company recovers approximately 15 pounds of black per thousand cubic feet of gas.

Pipe Line Firm Formed

Rogers Lacy, Jack T. and T. H. Williams, all of Longview, Texas, have organized the Southern Natural Gas Pipe Line Company with headquarters at 420 South Main Street, Longview. Lacy and associates formed the Southern Gas Company in 1940 to market gas from the Willow Springs field in Longview and in the Gladewater and Kilgore sectors of the East Texas field, and has since developed substantial gas holdings in the Carthage field, Panola County, Texas.

Another Test Reported Scheduled in Nicaragua

Seismograph operations are reported taking place in preparation for another test well in Nicaragua by The Atlantic Refining Company and American International Fuel and Petroleum Company.

Early in 1944 a well drilled by these operators near Dacura, north of Puerto Cabezas, on the east coast of Nicaragua, was abandoned after reaching a reported depth of more than 7000 feet. The new location will be in the same area.

PIWC Historical Record Committee Is Selected

A "Historical Record Committee" has been named by William R. Boyd, Jr., chairman of Petroleum Industry War Council, to develop recommendations for the preservation of appropriate historical records of the petroleum industry's performance during the war and the preparation by the industry of the story of its war accomplishment.

The committee: W. T. Holliday, chairman; District 1, W. Alton Jones; District 2, O. D. Donnell; District 3, C. F. Roeser; District 4, W. H. Ferguson; District 5, W. F. Humphrey; George A. Hill, Jr., Eugene Holman, and Reese H. Taylor.

More Fleet Supervisor Training Courses Slated

The National Committee on Automotive Fleet Supervisor Training announced the scheduling of 12 additional fleet supervisor training courses for 1945 in as many universities in cooperation with national, state and local organizations interested in safety and conservation.

Four such courses have been held this year at Ohio State University, North Carolina State College, Tulane University, and Texas A. and M. College in which 163 supervisors participated. The number of drivers reached by these supervisors totaled 22,155.

Complete information regarding these courses can be obtained from Automotive Safety Foundation, Tower, Building, Washington, D. C.

23 Wells Abandoned

Twenty-three exhausted oil and gas wells were abandoned in Oklahoma between March 23 and April 24 as compared with 20 reported during the previous 30-day period by the Oklahoma Corporation Commission. In the East Ranges 22 wells were abandoned while only one was reported in the West Ranges. The commission reported a total of 48 dry holes drilled in the state during the same period, 21 in the East Ranges and 27 in the West Ranges compared with 28 during the previous 30 days.

☆ Oklahoma

Extension Seen for New Oklahoma County Pool

Extension probable for new Bethany pool in Oklahoma County; wildcat 5 miles southeast of North McCloud has good oil show in Bartlesville zone; testing resumed in Cleveland County wildcat; deep Anadarko Basin test dry and abandoned; Ohio plugs outpost well in New Gaber pool.

Oklahoma County: Phillips Petroleum Company, which opened the Bethany gas pool to the southeast of the big West Edmond field, appears about to give the area a ½-mile northwest extension. Its Ella 1, CNE NE 22-12n-4w, was reported logging a good oil show in the Hunton lime at 7320 feet. This is significant since Phillips' first well in the Bethany area was a big gasser. Drilling continues slowly with indications operator will make production test shortly.

Lincoln County: About 5 miles southeast of the North McCloud pool, Alladin Production Company's Young 1, CNW SW NW 32-12n-3e, recovered about 100 feet of oily mud and some free oil on a 30-minute drill-stem test of the Bartlesville sand between 4866-83 feet. The wildcat is drilling in shale below 5135 feet. While structural indications are reported good, productive acreage is not expected to be very large since the area is quite broken and the North McCloud pool to the northwest and the abandoned Meeker pool to the east only cover about a section.

Cleveland County: Interest in O. G. Harp's Mattheson 1, NE SW NE 19-10n-2w, which created considerable excitement last December, has been renewed as the wildcat was undergoing further testing. Unconfirmed reports state that Fox & Fox, West Edmond operators, have taken over the well. Testing is under way opposite the Hunton lime zone which made a few heads of mud showing oil after 40 shots through casing opposite 7934-77 feet. The well flowed for two days from the Bartlesville sand tanking 1325 barrels and then bridged over last December. Carried to the Wilcox it failed to show. Swabbing test continues.

Blaine County: Failure was reported for The Superior Oil Company of California's Norris 1, NEC 17-19n-10w, about 1¾ miles northeast of Okeene and a test of Anadarko Basin possibilities. The wildcat was drilled to 11,005 feet and abandoned after electrolog failed to indicate production. Although a failure the well establishes some subsurface control in an area where few wells have been drilled.

Garfield County: The New Garber pool opened early this year received a setback with failure at The Ohio Oil Company's Ebert 1, SE SE SE 1-22n-4w, outpost plugged at 5283 feet after Wilcox and Layton sand horizons failed to show. Some oil was logged at 4100 feet; Mississippi lime was topped at 4899 feet and a drill-stem test made in a sand between 5180-5200 feet with no shows. First Wilcox sand was topped at 5236 feet; second Wilcox sand was a drill-stem tested between 5268-83 feet, recovering 70 feet of gas-cut mud.

West Edmond: This 4-county oil pool was given ¾-mile extensions to the south and northwest last week. Anderson-Prichard Oil Corporation's Stewart 1, C NW NW 24-15n-5w, in the Kingfisher County sector, flowed approximately 135 barrels of oil in 22 hours through tubing choke from the Bois D'Arc zone between 7014-26 feet, extending the field northwest. Magnolia Petroleum Company gave the pool its south extension at Whetstone 1, C NW SE 33-13n-4w, Oklahoma County, flowing 565 barrels of oil and 6 million cubic feet of gas in 3 hours from Bois D'Arc through casing perforations at 6990-7035 feet. The pool now has more than 500 producers.

Okfuskee County: West of Paden, J. E. Crosbie, Inc., et al's Gragg 1, NE NW 20-12n-7e, which looked like a producer on the strength of oil-stained cores in the Hunton lime, showed 1600 feet of salt water on drill-stem test and was abandoned at 4488 feet. Hunton was topped at 4442 feet. Electrolog survey gave no hopes of production.

☆ Kansas

Marjorie Area Oil Well Flows 250 Barrels Daily

First oil well in Marjorie gas area flows 250 barrels daily; new stratigraphic pool found in Dickinson County; Stanolind completes big gasser to extend Hugoton gas area; gas showing reported in Wyandotte County wildcat; Hugoton gas field gets second extension of week.

Barber County: The first oil well for the big Marjorie gas structure was completed by J. M. Huber, Inc., at Clay 1, SE SW 28-30s-13w, which flowed 250 barrels of oil per day through choke from Viola lime between 4583-93 feet. The well had been testing for some weeks and its completion closes a 2-mile gap in the field. This well is a few feet

Wells Completed in United States in Week Ended May 12, 1945

Data preliminary and subject to revision. Revised and more complete data on all completions shown in monthly summary of drilling, published in second issue of each month. More detailed data on wildcats published in third issue of each month.

State or District	FIELD COMPLETIONS: New Wells *Oil	Gas	†Input	Dry	Total	Old Wells Deepened	WILDCAT COMPLETIONS *Oil	Gas	Dry	Total	ALL COMPLETIONS: This Week	Last Week	Cumulative: This Year	Last Year
Alabama	....	....	....	....	....	....	....	1	....	1	1	1	8	7
Arizona	....	....	....	....	....	....	....	....	....	....	....	....	....	3
Arkansas	....	....	....	....	....	....	....	....	4	4	4	3	48	72
California	44	3	....	....	47	....	....	....	6	6	53	48	742	696
Colorado	....	....	....	....	....	....	....	....	....	....	....	....	13	8
Florida	....	....	....	....	....	....	....	....	1	1	1	....	5	....
Georgia	....	....	....	....	....	....	....	....	....	....	....	....	2	1
Illinois	11	....	....	9	20	2	1	....	6	7	29	22	562	573
Indiana	3	....	....	2	5	....	....	....	....	....	5	4	103	105
Iowa	....	....	....	....	....	....	....	....	....	....	....	....	1	2
Kansas	8	6	....	8	22	6	1	....	9	10	38	20	526	624
Kentucky	1	....	....	1	2	....	....	....	2	2	4	4	146	239
Louisiana	6	....	....	3	9	....	1	....	2	3	12	13	326	240
North Louisiana	....	....	....	....	....	....	....	....	1	1	1	4	101	74
South Louisiana	6	....	....	3	9	....	1	....	1	2	11	9	225	166
Michigan	....	....	....	....	....	....	....	....	....	....	....	14	245	202
Mississippi	4	....	....	....	4	....	....	....	1	1	5	11	133	36
Missouri	....	....	....	....	....	....	....	....	1	1	1	....	12	7
Montana	....	....	....	....	....	....	....	....	....	....	....	12	74	98
Nebraska	....	....	....	....	....	....	....	....	....	....	....	....	2	7
New Mexico	7	....	....	1	8	....	1	....	1	2	10	10	182	149
New York	15	....	10	....	25	....	....	....	....	....	25	25	342	439
Ohio	5	2	....	1	8	....	....	....	....	....	8	8	211	296
Oklahoma	14	3	....	5	22	1	1	....	8	9	32	30	792	551
Pennsylvania	27	4	15	1	47	....	....	....	....	....	47	47	941	994
Tennessee	....	....	....	....	....	....	....	....	....	....	....	....	....	5
Texas	72	12	....	20	104	2	1	....	26	27	133	127	2,578	1,986
E.Tex.Bor. Co.'s	....	....	....	....	....	....	....	....	....	....	....	2	28	4
E. Texas Field	....	....	....	....	....	....	....	....	....	....	....	....	....	3
Rest of E. Texas	5	....	....	....	5	....	....	....	2	2	7	7	78	104
North Texas	16	....	....	9	25	....	....	....	6	6	31	30	563	459
W. Central Tex.	2	1	....	1	4	....	1	....	3	4	8	5	168	140
West Texas	25	2	....	4	31	1	....	....	3	3	35	35	678	547
Tex. Panhandle	3	5	....	....	8	....	....	....	....	....	8	8	223	75
G. Coast, Upper	5	1	....	2	8	1	....	....	6	6	15	5	251	180
G. Coast, Lower	12	2	....	3	17	....	....	....	2	2	19	24	373	304
Southwest Texas	3	1	....	1	5	....	....	....	3	3	8	9	185	139
S. Central Tex.	1	....	....	....	1	....	....	....	1	1	2	2	31	31
West Virginia	2	18	....	3	23	....	....	....	....	....	23	10	273	332
Wyoming	....	....	....	....	....	....	....	....	....	....	....	3	66	56
Total U. S.	219	48	25	54	346	11	6	1	67	74	431	412	8,333	7,728

* Includes distillate wells. † Includes salt water disposal wells.

lower on the Viola than 3 producing gas wells in the field.

Dickinson County: About 2 miles north of the Lost Springs pool, International Oil Company's Doyle 1, NE SE 22-16s-4e, was completed for 88 barrels of oil and 20 barrels of water per day, natural, from the Mississippi lime. Accumulation is due to stratagraphic trap conditions since the producing horizon is normal with other wells in the area. The strike has been called the Lost Springs North field.

Meade County: Stanolind Oil & Gas Company's Adams 1, center 8-35s-30w, about 18 miles east of the Hugoton gas area, was completed for 88 million cubic feet of gas daily, open flow, and deliverability of 16 million cubic feet. Production is from Mississippi lime and is through casing perforations at 5850-90 feet, with shut in pressure of 1515 pounds.

Stanton County: A second extension for the week to the Hugoton gas area was reported at Stanolind's Fegan 1, center 3-27s-39w, completed with an open flow capacity of 10 million cubic feet of gas daily from the Herrington-Krider zone. The wildcat is 12 miles west of production.

Wyandotte County: About 4 miles northwest of the Bethal pool, Kelly et al's Krohne 1, SW SW 6-10s-23e, got an estimated 400,000 feet of gas in an unidentified sand at 1084 feet and was drilling below 1232 feet and planning to test the Mississippi lime.

Barton County: Lauck-Moncrief et al's Bock 1, wildcat in NE NE SE 30-18s-11w, 2½ miles southeast of the St. Peter pool, is abandoned in the Arbuckle lime, topped at 3433 feet. Only a slight show of oil was logged. The Lansing lime was cut at 3126 feet. North of the Kraft-Prusa field the Wood River Oil & Refining Company has staked location for Huberty 1, a wildcat in the CNL SW NW 2-16s-12w.

Nebraska

Scotts Bluff County: Fuerst Oil & Development Company has set 6-inch casing at 5250 feet in Dorsch 1, wildcat in NW NW SW 6-20n-54w, and was preparing to test a heavy gas show at 5250-70 feet.

Dawes County: Amerada Petroleum Corporation's State of Nebraska 1, CNE SE 16-33n-49w, was drilling below 2720 feet. The well is on a block of 125,000 acres which Amerada worked with a seismograph.

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☆ New Mexico

Penrose Field Deep Test Has Glorietta Gas Show

Granite plug eliminates portion of the Drinkard-Yeso field as an Ordovician prospect; Penrose field deep test has gas show in the Glorietta; second deep test for Skaggs area nearing pay.

Lea County: The Texas Company's Blinebry 1, northeast offset to the Drinkard-Yeso 6400-foot oil area, cemented 7-inch casing at 5773 feet after plugging back from solid granite at 7517 feet to 5720 feet. An attempt will be made to complete as a gasser in the Glorietta. Revised information reveals that detrital formation was entered at 7395 feet and first granite-wash at 7430 feet with top of granite near the 7435-foot level. This is the highest granite in the county.

Neville Penrose, Inc., et al's Penrose-Federal 1, projected Ellenburger test for the Penrose field and 5 miles northwest of the granite test, logged nominal oil stain in Glorietta at 5099-5173 feet. A drill-stem test at 5098-5173 feet yielded 360 feet of gas-cut mud. The test was drilling lime at 5230 feet.

Continental Oil Company et al's Skaggs 3-B-23, southeast offset to the Abo discovery at 7700-25 feet in the Skaggs area, was drilling lime at 7660 feet, and checking normal.

Wildcats: The Texas Company's Eaves 1, 11 miles northeast of the Hobbs field, was drilling lime at 7615 feet.

Stanolind Oil & Gas Company's Jones 1, 3¼ miles southeast of the same field, was drilling lime at 9010 feet.

API Postwar Activities Committee Is Selected

A Postwar Activities Committee to cooperate in the development of a peacetime program for The American Petroleum Institute, has been named by William R. Boyd, Jr., president of the organization.

Named to the committee were George A. Hill Jr., chairman; R. H. Colley, H. D. Collier, J. Frank Drake, Bert I. Graves, Eugene Holman, A. Jacobsen, B. Brewster Jennings, W. Alton Jones, Frank Phillips, Charles F. Roeser, Wm. G. Skelly, Reese H. Taylor, A. E. Watts, and Robert E. Wilson.

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☆ West Texas

Wildcat in Crane County Is Promising in Devonian

Crane County wildcat has favorable showing in the Devonian; deep Pennsylvanian prospect in Howard County shows water after acidizing; lease play across west half of Ector County unabated as TXL field assumes greater potentialities.

Crane County: The Atlantic Refining Company's University 1-A, C NE SE Sec. 33, Block 31, 5⅔ miles west of the McElroy field, recovered 810 feet of rotary fluid that was heavily cut with gas and distillate and some high-gravity crude when a drill-stem test was run in the Devonian at 7913-8024 feet.

The well made several heads while pulling dripp pipe. It was drilling dry chert and lime at 8057 feet, and will continue to the 10,400-foot Ellenburger before running pipe. This prospect is 2 miles southwest of Gulf Oil Corporation's University 1-F, failure in Ellenburger at 10,628-10,659 feet. The latter had broken oil saturation in the Devonian, topped at 8197 feet, with elevation of 2574 feet, and also in Lower Silurian, topped at 9290 feet.

Gulf Oil Corporation's McKnight 7-E, prospective Ordovician discovery for the McKnight sector of the Sand Hills structure and 3 miles northwest of nearest Ellenburger production, tested sulphur water from perforations at 6060-90 feet. Next perforations will be opposite Simpson saturation at 5979-6031 feet.

Howard County: Continental Oil Company and Group One Oil Corporation's Settles 1-D-133, offsetting shallow production, recovered 1980 feet of oil after perforating at 9100-9200 feet in Basal Pennsylvanian, topped at 8924 feet. However, this showing was discounted after using 1000 gallons of acid, as the hole filled with brackish water and nominal amount of free oil that could not be lowered below 1500 feet from surface on swabbing test. Perforations will be squeezed. This Ellenburger failure indicated a small oil producer in drilling and testing the Crinoidal at 8928-34 feet.

Upton County: Humble Oil & Refining Company's Parrott 1, indicated oil discovery in the Permian at 9550-76 feet, plugged back from Devonian chert at 10,744 feet due to loss of rotary returns, and cemented 5½-inch casing at 9944 feet. Perforations will follow. The company's Gresham 1, a mile west, was drilling shale at 7960 feet.

Midland County: Humble Oil & Refining Company's Buchanan 1, 7 miles southeast of Midland and probable gas-distillate discovery at 10,315-10,388 feet, was drilling chert and lime at 11,480 feet in Devonian, topped at 11,410 feet.

Ector County: Phillips Petroleum Company's T. P. Land Trust-Phillips 1-A, 1¾ miles southeast of the TXL field's Devonian discovery and a failure in this zone, was credited with having entered the Ellenburger at 9610 feet with elevation of 3292 feet. This correlates 323 feet high to the discovery, which tested water in the Ellenburger, and 43 feet high to an Ellenburger discovery awaiting completion. Phillips Petroleum Company was making a drill-stem test at 9640 feet. If a commercial producer occurs, this operation automatically shifts the apex of the Ellenburger to the east, trending northwest-southwest, with possibilities of embracing a large area.

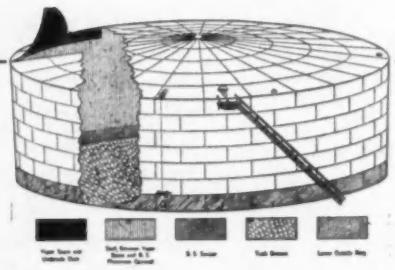
Ellenburger production is assured for the TXL field through Shell Oil Company's Thomas 1-A, ⅞ mile north of the discovery and a failure in the Devonian, having flowed maximum of 75 barrels of 43-gravity oil hourly rate in a series of drill-stem tests in Ellenburger, topped at 9695 feet.

Thomas 1-A was trying to restore circulation at 9852 feet, where a drill-stem test at 9830-52 feet yielded a flow of 525,000 cubic feet of gas. The drill pipe filled 6850 feet with oil and 350 feet of oil-cut mud. This prospect has drilled 157 feet of Ellenburger without water. Itis interesting to note that both Ellenburger prospects were dry in the Devonian, although situated structurally favorable, and both indicated production in the Silurian.

Sinclair Prairie Oil Company's Williamson 1, 3 miles north by west of the TXL field and most important outpost, was drilling lime at 6697 feet, having entered the Glorietta at 5300 feet, being 49 feet low.

The Texas Company's T. P. Land Trust 1-B, 1½ miles southwest of the nearest Devonian producer in the TXL field and structurally low, was showing a small amount of oil and water after using acid in open hole at 9105-9339 feet in Silurian. This semi-wildcat was showing marked thickening of formations as it deepened, thereby discounting any prospects of making a well in the Ellenburger.

Phillips Petroleum Company, which



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has paid top prices for protection on and near the TXL structure, continues to strengthen its position as a major lease owner in the west half of Ector County, extending southeast from the northwest edge of the Goldsmith field to the Penwell field. The company has bolstered its position in the Goldsmith field through the purchase of mineral rights below 4500 feet under the American-Maracaibo Company's 8 quarter-sections within and near the north end of the structure for $150 per acre cash and $3500 per acre additional, if productive.

Gaines County: Amerada Petroleum Corporation's Jones 1-A, 4¼ miles southwest of nearest Wasson production, tested sulphur water at 8936-74 feet, and was drilling lime and chert at 9040 feet. Sinclair Prairie Oil Company's Northrup-Lindsey 1, 1½ miles southeast of the Russell field, was finishing at 6050 feet. Favorable structural position was confirmed in logging oil saturation at 5560-80 feet.

☆ North Texas

Third Strawn Oil Area for King County Indicated

Third Strawn oil area indicated for King County; Grayson County deep prospect abandoned; lower Strawn wildcat in Eastern Cooke County has oil showing.

King County: Mid-Continent Petroleum Corporation's S. B. Burnett 1, G. W. Lampson Survey and 4 miles southwest of the Ross Ranch discovery in Strawn at 5239-57 feet, temporarily passed up probable oil production and was drilling dry lime at 5580 feet to explore the Mississippian and Ellenburger before running pipe. The Strawn section was entered at 5432 feet with elevation of 1836 feet, and oil saturation was logged at 5473-78 feet followed by dry lime at 5488 feet. A drill-stem test at 5465-88 feet yielded a gas volume rated at 50,000 feet daily; 270 feet of oil-cut mud; 2520 feet of free oil; and 2425 feet of salt water. This showing is considered ample to make a well, but the oil zone is comparatively thin with underlying water.

The Ohio Oil Company's Ross 2, east offset to its Ross Ranch discovery, recemented plug after plugging back from water in Ellenburger at 6075-6472 feet with the hole bottomed in granite. Strawn pay was logged at 5305-30, 5341-52 and 5374-86 feet with elevation of 1769 feet.

Grayson County: The Pure Oil Company's Little 1-A, Gordonville area, was pulling 5½-inch casing to plug after testing nominal oil showings in Ellenburger, Simpson and Strawn with the hole bottomed at 9919 feet. This wildcat set a new depth record for the district, replacing Amon Carter's Allen 1, Denton County failure at 9025 feet.

Cooke County: The Texas Company's Bulkeley 1, 2⅛ miles east of the Walnut Bend field, tested 90 feet of oil- and gas-cut mud and 40 feet of mud from Strawn sand at 6441-46 feet, and was idle for rig repairs at 6457 feet.

Jack County: Panhandle Refining Company's Cherryhomes 1-A, southeast offset to its Cherryhomes pool discovery in Bend at 5035-50 feet, cemented 5½-inch casing at 5075 feet with hole bottomed at 5565 feet, and will test oil saturation in sandy-lime at 5127-35 feet. The Bend was entered at 4774 feet, being 32 feet high, while the discovery pay at 5012-28 feet yielded 2 million cubic feet of dry gas on a drill-stem test. Continental Oil Company's Cherryhomes 1-A, east offset to the discovery, was drilling at 4910 feet, having entered the Bend at 4800 feet, or 9 feet high.

Continental Oil Company's Hooten 1, southeast offset to its Risch pool oil discovery in Bend at 4380-4420 feet, cemented 5½-inch casing at 4512 feet with the hole bottomed in shale at 5000 feet. The Bend was entered at 4295 feet, being 14 feet high. Drill-stem tests at 4428 and 4434 feet yielded dry gas, while oil-stained conglomerate at 4954-82 feet proved dry. Two additional tests are slated for Southern Jackson County area.

Clay County: Wayne Hammon et al's Bryans 1, Dean area, was drilling at 6260 feet, having indicated a 30-barrel pumper from Bend conglomerate at 5861-98 feet. Continental's Thomas 1, 2 miles north of Newport and 6⅓ miles from production, pumped 22 barrels of oil and 3 barrels of water initial from Strawn perforations at 4130-50 feet.

Directors Named

Tide Water Associated Oil Company stockholders recently elected the following directors:

Herbert S. Chase, L. F. Bayer, U. B. Boucke, Samuel A. Bishop, Thomas A. J. Dockweiler, B. I. Graves, Drew L. Hines, L. D. Jurs and Edward H. Salrin.

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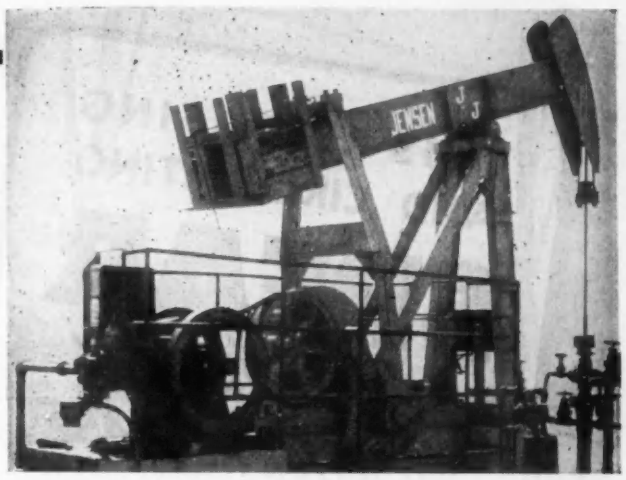

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☆ East Texas

Gas-Distillate Strike for Paluxy Field Is Assured

Gas-distillate strike in Basal Rodessa assured for the Coke 6300-foot Paluxy field, Wood County; second test for the Fairfield deep gas-distillate field is high on structure.

Wood County: Amerada Petroleum Corporation's Faulk 3, offsetting Paluxy production in the Coke field, was drilling dry sandy-lime at 8312 feet after showing for a high-pressure gas-distillate well in the Young, or Basal Rodessa, at 8090-8123 feet. A drill-stem test at 8076-8123 feet yielded gas within 3 minutes and flowed the 1500-foot water cushion within 17 minutes. Surface pressure built up to 2800 pounds in 23 minutes, with gas volume rated at 2,000,000 cubic feet daily. Gauge was not taken because of surface connections becoming partially frozen. The recovered drill-pipe yielded 3 stands of 59.9-gravity distillate and 2 stands of rotary fluid and fresh water. Deeper drilling eliminated the Pittsburgh zone at 8265-73 feet as a possible source of production, while the next prospect is the Travis Peak.

Faulk 3 is 5000 feet west of Amerada's Turner 1, Travis Peak failure at 8901 feet, and is 100 feet higher structurally. A commercial gasser in the Coke field is more desirable than an oil well, as the gas is needed for fuel in treating cut oil and for pumping, besides the possibility of repressuring the thick Paluxy pay.

Freestone County: The Texas Company's Sneed 1, 4200 feet south by west of the company's Fairfield field's gas-distillate discovery in Travis Peak at 8232-97 feet, entered the Rodessa at 7260 feet and was coring below 7310 feet. It is checking 10 to 13 feet high on the Lower Cretaceous markers.

Hunt County: The Ohio Oil Company's Popper 1, Cash faulted structure, tested salt water in Basal Cotton Valley perforations at 8355-65 feet, having plugged back from Smackover, topped at 9190 feet. Next perforations will be near the 7100-foot level.

Leon County: Shell Oil Company and Lone Star Producing Company's Tandy 1, first deep test for the Buffalo gas field, was drilling shale and lime at 9430 feet, having passed up a nominal show of gas in the Rodessa at 8944-9056 feet.

Panola County: Fifty-three permits were filed in a week's time in the Carthage distillate area by Arkansas-Louisiana Gas Company, The Chicago Corporation, Humble Oil and Refining Company, Skelly Oil Company and Union Producing Company.

The Carthage field has 59 producers completed with 6 dry holes having been registered, but conservative estimates show the field to have at least 185,100 proven acres. There are 8 wells in the field in the process of completion, all of which have indicated commercial production; 16 wells currently are classified as drilling, and work orders have been issued on 3 tests which are moving material in to get started.

Harrison County: D. E. and R. J. Whelan's William Peal Estate 1, Betty Humphries Survey, had slight shows of oil in cores taken from 7438-58 feet. Cores from 7471-74½ feet recovered grey and red hard, tight, fine grained sandstone, without porosity or odor. Drilling is now below 7660 feet in hard sand.

Shelby County: Humble Oil & Refining Company's Pickering Lumber Company 1, S. Francois Survey, ran Jeep to 8400 feet and set 7-inch casing at 8317 feet. Hole is now waiting on cement at 8689 feet.

Hunt Oil Company's G. F. Bright 1, John English Survey, is drilling below 3515 feet in shale and lime.

Price Hike Announced for Oil from Wyoming Field

Increase of 12 cents per barrel in the price of sour crude from the Big Sand Draw, Fremont County; Los Soldier (Tensleep), Sweetwater County, and Werts and Mahoney fields, Carbon County, Montana, was announced by OPA May 8, effective May 14.

The new ceiling price of $1.12 a barrel for 40-gravity oil, ranging down to 70 cents a barrel for less than 20-gravity, will be absorbed by the purchaser in the four fields, a refining company which also is the principal producer, it was said.

The increase will bring prices in the four fields up to the level of other fields in the same general area producing the same type of crude, and was the first result of a study of price ceilings in Wyoming.

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OIL MEN ARE BUSY MEN

This reminder — constantly before each member of the Editorial Staff — is a basic part of the editorial precept of The OIL WEEKLY.

Oil Men **Are** Busy Men, and they don't want anyone wasting their time. They will listen eagerly as long as you are saying something of value or something interesting, but you have got to give it to them straight. This is the basic editorial policy of The OIL WEEKLY:

A specialized paper for men directly engaged in the drilling, producing and pipe line industry . . . with every line of editorial content, every engineering feature, every news item judged solely on the basis of interest and value to men in this particular business* and written and re-written as CONCISELY as possible to tell all the facts in the least possible number of words . . . for fast, easy reading.

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Men of authority throughout the industry subscribe to this paper to where it is no exaggeration, from an advertising standpoint, to say: Sell the readers of The OIL WEEKLY and you sell the Oil Producing Industry!

The OIL WEEKLY

*The Gulf Publishing Company, publishers of The OIL WEEKLY, publish another paper (Petroleum Refiner) that is devoted entirely to the Oil Refining Industry. Obviously, its highly technical refinery content is of great interest to refinery men but of little or no interest to men not engaged in refinery work.

☆South Central Texas

Wildcat in Frio County Develops Steady Gas Blow

Humble wildcat in Frio County develops steady gas blow; wildcat tests in Atascosa, Medina, and LaSalle counties are failures.

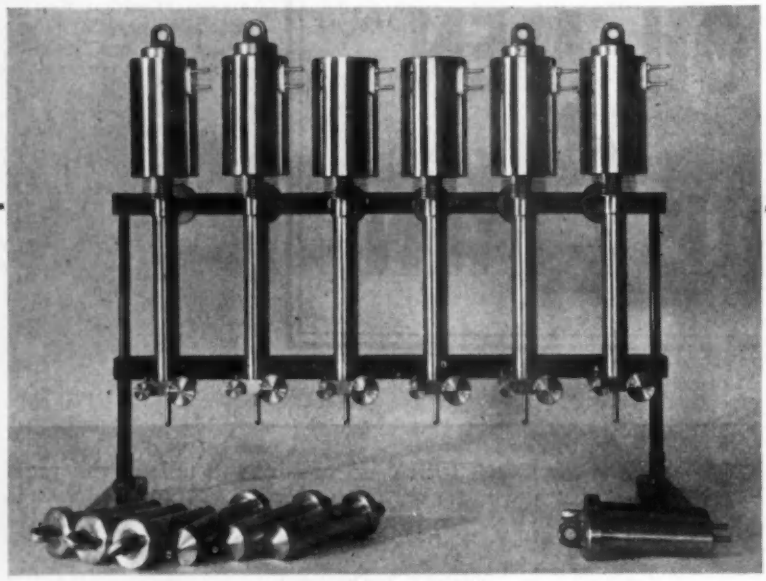
Frio County: Humble Oil & Refining Company's H. & R. C. Roos 1, wildcat 2 miles northwest of Hinds, drilled to 7990 feet and on a test at 7979-90 feet developed a steady gas blow and recovered 30 feet of gas-cut mud.

Atascosa County: Gulf Oil Corporation's Adam Tom 1, wildcat 12 miles southwest of the Hobson field, has been abandoned at 10,528 feet.

Bexar County: H. A. Pagenkopf's Max Blum 1, in the Gas Ridge field, is rigring up and preparing to spud. This well will drill to 5000 feet.

LaSalle County: Quintana Petroleum Corporation's South Texas Syndicate 1-F, wildcat 15 miles south of Fowlerton, has been abandoned at 6640 feet.

Medina County: John I. Moore's A. J. Wurzbach 1, wildcat 5 miles northeast of Castroville, was a failure at 3194 feet.



Above: Fluid Content Stills

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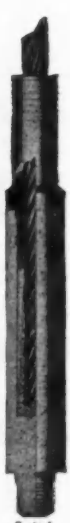

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☆Southwest Texas

Cadena Deep Test Staked; Wildcat Planned by Argo

Deep test staked in Cadena field; Argo to drill wildcat test in Duval County; George Irving enters Boyle field.

Duval County: A 6200-foot test has been staked in the Cadena field by the Taylor Refining Company. It is the A. B. Cueller et al 5 in Survey 305, being 900 feet southwest of the A. B. Cueller et al 4 dry hole.

In the Gormac field, Humble Oil & Refining Company's Duval County Ranch Company 1-J flowed 90.54 barrels of 24-gravity oil daily through a ¼-inch choke from 2449-58 feet. Tubing pressure was 60 pounds, casing pressure 560 pounds.

Argo Oil Corporation has staked a 5300-foot wildcat test 10 miles north of Benavides. It is the Mrs. Annia M. Bagnall in the H&W Survey.

Starr County: Continental Oil Company's M. M. Garcia 2-I, in the Boyler field, flowed 53 barrels of 47.4-gravity oil daily through a 10/64-inch choke from 4087-93 feet. Tubing pressure was 125 pounds, casing pressure 950 pounds.

George Irving of New Orleans has entered the Boyle field by staking his M. M. Garcia 1-C in Porcion 91.

McMullen County: Humble's E. M. Baker 2, wildcat 17 miles northwest of George West, Lowe Survey, was drilling below 6625 feet in shale and sand.

In the Loma Alta-Wilcox field, Humble's J. W. Atkinson 1-B was drilling at 4800 feet in sandy shale.

Settlement Sought

In an attempt to reach a settlement with Shell officials and the British government, representatives of the Mexican oil administration, the Bank of Mexico and other federal bureaus are now carrying on negotiations in London. The group is headed by Dr. Gilberto Valenzuela, former Mexican ambassador to England.

Bradford Reserves

The Bradford, Pennsylvania, oil field contains 30 to 90 million barrels of recoverable petroleum, Pennsylvania Grade Crude Oil Association was told by its director of production, J. P. Jones. Production last year was 12 million barrels.

Jones, who is preparing a new field map of the Bradford pool, said there are 14,300 undeveloped acres within the pool limits and recoverable oil is estimated at 4000 barrels per acre.

☆ Lower Texas Coast

Production Established In Lavaca County Pool

Oil production established in Lavaca County pool; pipe being set in Goliad Wilcox sand discovery; Bridwell well southwest of Mathis is flowing.

Lavaca County: Oil production has been established in the Word field at Moran Corporation's F. F. Kahanak 1. This well, a mile southwest of the Moran 1, Lell gas discovery, is credited with flowing an estimated 7 barrels of 44-gravity black oil an hour through a ⅛-inch choke from perforations at 5909-14 feet. Casing pressure was 2300 pounds and tubing pressure 2100 pounds. Total depth is 6520 feet. The Kahanak 1 topped the Wilcox sand at 5902 feet, being 31 feet lower than the Lell well which topped the Wilcox at 5871 feet. Plans are being made to rework the discovery gasser.

Goliad County: Transwestern Oil Company's William Altman Estate 1, wildcat 2 miles south of the Slick-Wilcox field, drilled to 8000 feet, ran electric log, and was preparing to set casing. On a 30-minute drill-stem test at 7648-52 feet, the well recovered 4500 feet of pipe line oil. This well is credited with being on the downthrow side of a fault.

W. C. McBride, Inc., has staked a wildcat test 6 miles west of Weesache. It is the August Kenne 1 in the J. W. Bergen Survey.

San Patricio County: Bridwell Oil Company's H. C. Willmann 1, wildcat a mile southwest of Mathis, set 5½-inch casing at 4563 feet and now is reported flowing from perforations around 4300 feet through a 5/32-inch choke. Tubing pressure was 250 pounds and casing pressure 375 pounds.

About 1275 feet northwest of the Willmann 1, Bridwell staked Bertha C. Willmann 1-A in the Delgado Grant.

Willacy County: J. S. Abercrombie Company and Magnolia Petroleum Company's H. H. Dohe 1, wildcat 3 miles southwest of Raymondville, was running an electric log at 10,021 feet. Operators may set protection string before drilling deeper. This wildcat is credited with having logged several sands showing oil below 8500 feet. No tests have been made.

Karnes County: Magnolia's Ruth Ingram 1, north outpost in the Burnell-Wilcox pool, flowed 56 barrels of oil daily through a 7/64-inch choke from 6774-82 feet. Tubing pressure was 1400 pounds and casing pressure 2000 pounds. The well may be reworked.

Victoria County: A 6800-foot wildcat test has been staked by F. A. Gillespie & Sons 5½ miles southeast of Inez. It is the J. W. Ragsdale 1 in the Fernando de Leon Survey.

$51.50 an Acre Paid for Lease on Indian Lands

One of the highest per acre prices paid at recent oil and gas lease sales on lands of the Five Civilized Tribes in Oklahoma was paid by Midstates Oil Corporation of Tulsa which bid $51.50 an acre for a lease on 110 acres in 15-3n-2e, Garvin County.

Interest shown in the area reflects considerable recent activity in southern Oklahoma where several new and important oil strikes have been made in the past few months. Leases sold at the sale were in Nowata, Tulsa, Creek, Okfuskee, Hughes, Seminole, McClain, Grady, Stephens, Jefferson, Murray, Carter, Marshall and Garvin counties.

U. S. To Help With Big New Refinery in Curacao

PAW is cooperating with British interests in the requisition of material for construction of a $6,700,000 refinery for Royal Dutch Shell in Curacao for the production of 100-octane aviation gasoline.

WPB approval has been obtained for the fabrication of approximately $1,650,000 worth of material in this country.

☆ Upper Texas Coast

Gas Well Is Completed on Flank of Danbury Pool

Gas well completed on south flank of Danbury pool; Walker County Woodbine sand wildcat prepares to test; outpost in Daboval field is failure; Lake Creek extension still testing.

Brazoria County: Humble Oil & Refining Company's Korenek 1, on the south flank of the Danbury field, has been completed as a dry gas well through perforations at 6520-37 feet. The well now is shut in.

Glenn H. McCarthy's W. W. Smith 1,

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New Texas Coast Gas-Distillate Reserve

Area Courtesy Zinsmeyer Map Company, Esperson Building, Houston

Location of Josey-Bruton's David Rorick, Jr., 1, H&TC Survey, Abstract 446, new gas and distillate discovery midway between the Katy and Richardson fields, Harris County, is shown above. The well flowed an unestimated amount of gas and distillate through a ⅛-inch choke from the Yegua formation through perforations at 7044-54 feet. Many lease holders are shown in the area which indicates an immediate drilling campaign. Both Sun and Humble plan early locations. The well now is shut in waiting erection of storage tanks.

in the Blue Lake area, is drilling below 10,100 feet. This well showed for a good oil producer in the 8656-foot level.

Chambers County: Sun Oil Company's Elizabeth H. Moore Estate 1, in the Double Gum area, is cleaning into pits from perforations at 8280-85 feet. The fluid is reported to be 82 percent oil and 18 percent salt water. Tubing pressure is 300 pounds, casing pressure 300 pounds.

Walker County: Magnolia Petroleum Company's Thompson Brothers-Texas Long Leaf Lumber Company 1-A, Woodbine sand wildcat test south of the Kittrell field, was preparing to test after recementing casing at 9969 feet, total depth. Top of the Woodbine is around 9951 feet with 5½-inch casing set at 9960 feet.

Matagorda County: Stanolind Oil & Gas Company's Gracey 1, outpost test on the west side of the deep Old Ocean field, is drilling at 10,985 feet in sand.

Wharton County: Seaboard Oil Corporation's Reba S. Snell 2, in the El Campo field, flowed 105 barrels of 40.1-gravity oil daily through a ⅛-inch choke from 6658-64 feet.

Sinclair Prairie Oil Company's Opal R. Winters 1, southeast outpost in the Daboval field, has been abandoned at 7313 feet.

J. A. Gray of Houston has entered the Daboval field by staking J. R. Braden 1 in the J. Bagnal Survey, Sect. 72.

San Jacinto County: Continental Oil Company's Foster 1-A, 4750 feet northeast of Navarro Oil Company's Foster 1 discovery well south of Cold Spring, is drilling in shale and sand at 9820 feet.

Montgomery County: Stanolind Oil & Gas Company and Atlati Royalty Company's McMahan 1, east of the Lake Creek field, is still testing at 11,550-622 feet.

Montana Resolution Asks For Law on Deductions

The Oil Conservation Board of Montana has directed a resolution to Congress, concerning the F.H.E. Oil Company decision of the United States Court of Appeals.

The resolution asks that a law be enacted as soon as possible that will assure oil and gas well drillers and investors in such enterprises the right to deduct intangible well drilling costs from current gross income or capitalize the same, for income tax purposes, as they shall elect pursuant to regulations of the Internal Revenue Bureau.

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☆ South Louisiana

Thornwell Field South Extension Well Is Testing

South extension well testing in Thornwell field; Humble completes new oiler at Avery Island; 13,000-foot test staked in old Lafitte field; East Barataria Bay wildcat drilling plug in casing set at 12,000 feet.

Cameron Parish: Cities Service Oil Company's Lacassine 2, 6-12s-4w, ½-mile south of the gas discovery well in the Thornwell area, drilled to 9903 feet and set 5-inch casing at 9834 feet. Perforations were made at 9660-70 feet and squeezed. Plans are to reperforate at 9631-41 feet for a production test in the Lacassine sand topped at 9631 feet.

Gulf Refining Company's M. Gray et al 1-C, wildcat at Johnson Bayou, was drilling at 11,435 feet in shale.

Iberia Parish: Humble Oil & Refining Company's Petit Anse Company 4-B, in the Avery Island field, was reported testing in a new sand at 9755-81 feet where it is flowing at the rate of 12.85 barrels of 35.2-gravity oil an hour. Previously, the well showed gas and condensate in a deep sand at 11,208-216 feet.

Jefferson Parish: The Texas Company has staked location for a 13,000-foot deep test in the old Lafitte field. It is the Rigolets 3-B in 27-17s-24e.

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Bay 1, wildcat in the East Barataria Bay area, was reported drilling plug in 7-inch casing set on bottom at 12,000 feet. Whether a test will be made was not announced.

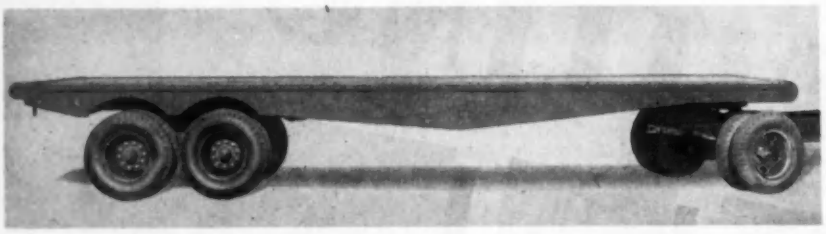
Jefferson Davis Parish: Barnsdall Oil Company's Minos Miller 5, West Tepetate field, recovered 211 barrels of oil and 166 barrels of salt water on a test through perforations at 9161-70 feet. Gravity of the oil was 43.3 with the gas-oil ratio 3607-1. Packer was being pulled and the well will be retested.

Lafourche Parish: Humble's I. R. Price 1, Delta Farms field, was being completed through perforations at 9426-32 feet. It is flowing 12 barrels of 35.4-gravity oil an hour through a 11/64-inch choke with a gas-oil ratio of 641-1.

Acadia Parish: Union Sulphur Company's Medlenka 2, east offset to the discovery well at Iota, was still testing in sand at 9678-90 feet. Depth is 11,001 feet. Efforts to find deeped sands failed.

Texas Well Permits

Permission to drill 160 new wells in Texas were approved by the Texas Railroad Commission last week. There were 56 in North Texas and 31 in Southwest Texas. West Texas reported 29 new locations. There were 15 from the Gulf Coast; 14 from the Panhandle; 12 from West Central Texas, and three from East Central Texas.



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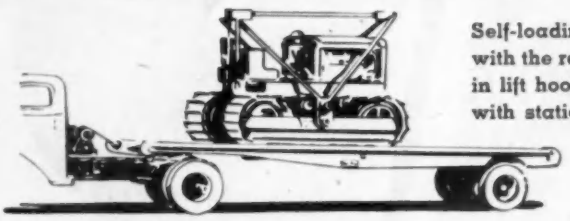

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☆ North Louisiana

New Oil Pools Indicated In Bienville, Webster

New oil pools indicated, Bienville and Webster Parishes; deep wildcat holds interest in Jackson; much attention remains on 2 extension wells in Benton, Bossier Parish area.

Bienville Parish. The Ohio Oil Company's Woodard-Walker appeared a likely oil pool opener when 90 feet of oil and 235 feet of oil-cut mud was recovered on a 25-minute drill-stem test from the Pettit. Perforations were between 6789-6816 feet. Electric log was run and plans were to perforate again. Total depth is 7011 feet.

Jackson Parish: Shell Oil Company's Tremont Lumber Company 1 was set with a string of 5½-inch casing at 10,296 feet and perforations were made between 10,020-10,023 feet. A squeeze job was run and the well was idle, waiting on cement.

Bossier Parish: Attention continued to focus in the Benton area and possible extensions of Barnsdall Oil Company's J. T. Hanks discovery well. Vaughn and Hurley's Ellerbe 1 was reperforated with 9 shots between 8035-41 feet and 46.4 barrels of fluid flowed, of which more than 40 percent tested salt water, the rest 57-gravity oil. Tubing pressure was 105 pounds. Plans were to perforate further Barnsdall's Welori, outpost northwest of the discovery well, cored at 8095-105 feet and recovered 8 feet of sand with a slight show of oil and gas. On a 25-minute drill-stem test from perforations between 8094-8150 feet, 2000 feet of water cushion and 32 stands of salt water were recovered. It cored at 8208-18 feet and recovered salty sand with no shows.

Princeton Refining Company added 2 more locations in the old Bellevue field with the Arkansas Fuel Oil Fee A-40, in 15-19n-11w; and the Mrs. F. H. Seanland 8, in 15-19n-11w. Both wells are Nacatoch tests.

Claiborne Parish: Big West Drilling Company is to drill Patton-Kilgore Unit 1, in 12-20n-5w, Lisbon field. The well will be drilled by the company's tools and will go to the Burgess-Simmons.

De Soto Parish: J. P. Owens will drill C. B. Scott et al I-1, in 28-14n-13w, Holly Ridge field. The test will go to 2800 feet. Carl Brooks is the contractor. Owens also completed Farmer 1-F in the Holly field with initial production of 69 barrels of oil daily on pump. Total depth is 2873 feet.

Madison Parish: V. S. Parham staked Kathan & Johnson, a Glenrose test in 35-18n-10e.

Webster Parish: A new Pettit Lime oil discovery was indicated by tests at Hunt Oil Company's Mrs. O. G. Roberts 1, SE NE 11-23-10w. Drilled to 11,300 feet and plugged back after tests of lower formations were reported to have failed to show production, the well was perforated from 5734-44 feet with 72 shots and acidized with 6000 gallons. Flowing at the rate of 100 barrels of oil per hour, the well was later closed down.

Red River Parish: Lewis and Baumann will drill Blunt et al B-2, in 11-12-11w. The well, in Bull Bayou, will go to 2800 feet.

Tensas Parish: The Carter Oil Company will drill the Engel & Laub 1, C

NW NW 32-21-10e, Holly Ridge field. Carter lost a wildcat when E. R. Butts 1, 14-10-10e, proved dry and was abandoned at a total depth of 9108 feet. Stanolind Oil and Gas Company's Ada Smith Glover was completed, flowing at the rate of 216 barrels of 36-gravity oil through a ¼-inch choke in 24 hours. Tubing pressure was 400 pounds and casing pressure 1350 pounds. Gas-oil ratio is 611-1.

Caddo Parish: Bell and Reynolds' Willis 1, a wildcat, was declared dry after testing salt water and was abandoned at 2541 feet, total depth.

Concordia Parish: The California Company finaled the F. D. Brown in the Lake St. John field, flowing 305 barrels of oil in 24 hours through a 9/64-inch choke. Gas-oil ratio is 1320-1.

Richland Parish: George Schoonmaker's Gold Mine, 10-14-6e, was declared dry and abandoned at 5166 feet, Murphy-Sun Oil Company's J. E. Holt 3 flowed at the rate of 248 barrels of oil through a 316-inch choke from perforations between 3337-47 feet, gas-oil ratio 649-1. The company's Ella Barrier 2 recovered 12 feet of sand showing salt water after coring at 4400-25 feet and the well was abandoned at a total depth of 5775 feet.

Gulf Refining Company's Ed Hopper, also of the Delhi field, flowed 262 barrels of 42.1-gravity oil. Gas-oil ratio is 379-1. Production is from 3327-42 feet.

☆ Arkansas

Activity Is Centered in Columbia County Fields

Locations and completions total 6 each; 3 wildcats abandoned; 2 wildcats among new stakes.

Ashley County: Placid Oil Company will drill Crosset Lumber Company 1, C NE SE 34-17s-9w. Roads are being built to the location.

Boone County: William S. King will drill B. S. Lee, a wildcat in 24-18-22.

Columbia County: R. H. Crow Trustee completed Taylor B-2 in 12-15-20, pumping 50 barrels of oil per day. Total depth is 4040 feet. Crow also staked E. C. Smart 4-A, C NE SE SW 12-15-20w, Stephens field. Tide Water Associated Oil Company and Seaboard Oil Company will drill J. S. O'Bier 1, C NW NE, 18-18-19w, in the Atlanta field. Midstates Oil Corporation is to drill G. W. Taylor et al in the Haynesville field and was preparing to move in. The well is in 4-20-20w. Midstates Oil Corporation completed Taylor-Partee-Wilson 1 in the Haynesville field from 5520-31 feet with initial production of 121 barrels of oil through 10/64-inch choke in 24 hours. Total depth is 5600 feet. Casing pressure was at 1550 pounds and tubing pressure at 650 pounds. G. H. Vaughn completed the McKissick, a wildcat, 18-16-21, as dry and abandoned it at 7848 feet.

Drew County: Curtis A. Kinard declared the T. C. Deal dry and abandoned it at 4386 feet.

Miller County: The Carter Oil Company completed the T. J. Beauford 2 in the Fouke field from perforations between 3583-93 feet with 50 shots. Initial production flow is 3 barrels of oil per hour through a 532-inch choke. Tubing pressure is at 50 pounds.

Washington County: Plymouth Oil abandoned the Chester B. Spies, 24-13-30, at 2121 feet, and the R. G. Williams at 1300 feet. Both were wildcats.

Creole Operations Reach September-October Level

Operations of Creole Petroleum Corporation during the last half of March reached a tempo about equal to September and early October last year, indicating the tanker situation is now greatly improved with regard to the handling of crude produced in Venezuela, and that most of the present capacity of the new Creole-Mene Grande pipe line out of the Maturin district is being utilized.

Creole daily average production for March was 425,084 barrels, of which 295,968 barrels were taken from Lake Maracaibo fields, and 129,116 barrels from company properties in eastern Venezuela. The Mulata field has produced an average of 26,000 barrels per day during the first three months of the current year for joint Creole-Pantepec interest.

The company completed 20 wells in Venezuela in March, including two dry holes in the Jusepin field, and two unsuccessful "stratigraphic information" wells in the vicinity of Maturin. Oil well completions during the month included 4 in the Lake fields of the company, 4 in Mulata, 7 in the Jusepin field, and 1 at Cumarebo.

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☆ Mississippi

Cranfield Outpost Reported To Have Found Oil Shows

Cranfield outpost reported to have encountered oil shows; Neshoba County wildcat reaching production depths; 4 new producers for Eucutta field; new test for Madison County.

Adams County: The California Company's Ella G. Lees 3, 29-7n-1w, Cranfield field, has reached 10,358 feet and cemented 7-inch casing. It is reported to have encountered oil shows at 10,284 feet and gas-condensate sands at 10,253-284 feet. If this well is successfully completed it will extend the field 1¼ miles northeast.

California's A. M. Ratcliffe 1, 46-7n-1w, in the Cranfield area, is understood to have recovered slight shows of oil in tests of the Wilcox at approximately 5879 feet. California's Laurie G. Ratcliffe 6, 67-7n-1w in the Cranfield area, resumed testing after losing tubing at 10,300 feet. The well had started making salt water and a subsequent squeeze job failed. It reached the basal sand at 10,546 feet.

California's National Gasoline Company of Louisiana 10, 67-7n-1w in the Cranfield area, is drilling below 11,426 feet after running electrical log. No shows were reported in cores from the basal sand at approximately 10,361 feet.

Neshoba County: H. H. Hamilton's B. A. Ritchie 1, C NE NE 3-12n-12e, the fourth wildcat for this county, was drillnig after a slight gas odor was reported from cores in the Eutaw at approximately 2320 feet. A subsequent drill-stem test recovered no shows. Production should be developed within the next 4000 feet as producing formations are encountered at much shallower depths here than in other sections of the state.

Wilkinson County: Rogers Lacy's Harriette W. Miles, 1, C NW SE 35-1n-1w, 15,000-foot test, was drilling below 7000 feet after running electrical log to 6947 feet. Unconfirmed reports indicate the Wilcox sand was topped at 6645 feet, 152 feet above anticipated levels and that cores taken from that horizon recovered several feet of hard saturated sand.

Madison County: Union Producing Company's E. P. Cameron 1, C NE SE 8-9n-2e, has taken out a permit for a well to test the Tuscaloosa horizon. Two other wildcats are making tests in this area. The Carter Oil Company's J. D. Howell 1, 6-10n-4e, was erecting derrick, and its Virgil Jones 1, 23-11n-3e, is drilling below 4510 feet.

Wayne County: Gulf Refining Company's W. F. Davis 1, NWc SW 2-9n-9w in the Eucutta field, is reported to have encountered pay section in the City Bank zone and recovered 1250 feet of 33.3-gravity oil. The well is cut off from production in the field by 2 dry holes.

Gulf's James Leggett 1, NEc SE 35-10n-9w, has reached 5375 feet in sand. Cores from the City Bank horizon recovered oil stain.

Four completions were anounced last week in the Eucutta field. Gulf's Lun Woodard 1, NEc NW SE 6-9n-8w, had an initial production of 124 barrels per day from perforations at 5130-38 feet. Magnolia Petroleum Company's G. S. Stanley 3, SWc NE 18-9n-8w, pumped 250 barrels of 20-gravity oil with production from the Stanley sands at 5275-87 feet. Lyons & Prentiss' T. F. Reynolds 1, NEc NE NW 18-9n-8w, pumped 450 barrels of oil per day and Humble Oil & Refining Company's G.M.&O.R.R.Co.14, 7-9n-8w, was completed with an initial rate of 161 barrels of 21.5-gravity oil per day.

Clarke County: Charles E. Walters' M. P. McClellan 1, C SE SE 4-10n-9w, wildcat, stuck the drill stem after reaching 3540 feet. The Eutaw horizon should be encountered within a few feet of this point. Kirby Petroleum Company's Long Bell Petroleum Company C-2, C NW SE SW in the Langsdale field, has erected a derrick and was waiting on rig.

Jefferson County: Humble's M. R. Smith 1, SEc 12-9n-1e, is coring below 9069 feet after running electrical log at 8757 feet. Cores and drill-stem tests in the Wilcox zone recovered gas and oil stains, but tests made in lower horizons developed considerable salt water with no shows. Tide Water Associated Oil Company's B. F. Buie 1, NWc 12-8n-4e, is drilling below 8670 feet with no shows reported.

Jones County: Gulf's D. J. Flynt 1, C SW NE 35-9n-12w, reached 9021 feet. No shows have been reported and last cores taken at 8507-16 feet recovered only black shale with streaks of sand. Gulf's E. S. Gambrell 1, SEc NE 34-10n-14w, wildcat seeking production from the Tuscaloosa in the extreme northwest section of the county, is drilling below 7532 feet with no shows reported from the lower horizons.

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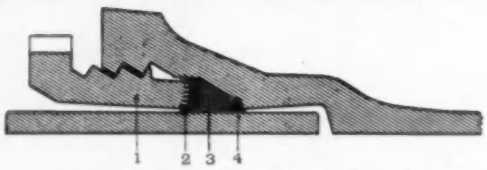

Illustration: Cross Section of Screw Gland Joint

1. Cast Iron Screw Gland
2. Fabric Face on Gasket
3. Rubber Gasket
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Bonuses of $498,838 were offered for oil and gas leases on 9204 acres of national forest land in Scott and Wayne Counties, Mississippi, by 16 major oil firms and independent operators. The bonuses represented high bids on 17 parcels of land in the Bienville and De-Soto National Forests, and are in addition to the annual rentals that apply to the bids. Bonuses averaged $54.20 per acre for leases and the highest bid for one parcel of land figured at $227 per acre.

The bids will be submitted to the Secretary of Agriculture for consideration.

Mississippi Spacing Units Acceptable to Secretary Ickes

Secretary Harold Ickes has advised Mississippi's Governor Thomas L. Bailey that spacing units of 320 acres for gas development would be acceptable to the Petroleum Administration for War, considering the drilling material and equipment shortage.

The governor also stated that the State Oil and Gas Board, of which he is chairman, would take no action on the spacing question until after oilmen had had an opportunity to file supplemental suggestions with the board. It is anticipted that the board will take action shortly after the May 7 deadline for submitting additional recommendations.

Alabama

Only 2 wildcats were active in Alabama last week. In Washington County Wayne Refining Company's Willie Mitchell 1, SEc NW NE 12-8n-3w, is reported to have recovered shows of oil from tests at 2050-55 feet, and was drilling at 2850 feet.

Walker County: Glenn Rose Oil & Gas Company's Ulysses 1, C N½ NW SE 6-13s-6w, is drilling below 1861 feet. Top of Bangor was picked up at 1070 feet.

Georgia

Tropic Oil Company's Gibson 1, 4½ miles southwest of Lyons, in Toombs County, is reported to have found sand with a show of oil and gas from 3305-25 feet. Three drill-stem tests were unsuccessful due to mechanical failures. Shows of oil were also said to have been found in samples at 2168-75 feet, but the well is drilling tight and these have not been confirmed.

Harry Byers' Dean 2, in Wayne County, is still shut down at 500 feet.

Florida

Another oil well for the Sunniland area of Collier County was assured, as Humble Oil & Refining Company made ready to run casing and test Gulf Coast Realties 4, 20-48s-30e, 8000 feet north of the discovery well.

Production seems likely to surpass the discovery well, a drill-stem test from 11,549-597 feet with ⅜-inch top and ¼-inch bottom chokes on tool for 1 hour and 26 minutes recovered water cushion plus 5990 feet of 19.2-gravity oil, with 10 feet of salt water and 30 feet of salty oil-cut mud. Bottom hole flowing pressure was 5225 pounds. Depth is 11,597 feet, about 27 feet above the water level as indicated in the discovery well. Pin-point porosity was picked up in lime from 11,559-582 feet, and good porosity indicated from 11,588½ to the total depth.

Gulf County: The Pure Oil Company abandoned Kate Gaskin 1, wildcat in NWc NE NW 19-5s-9w, at total depth of 5604 feet, without any shows being reported the length of the hole.

Bay County: Magnolia Petroleum Company's State Block B-4, C SW SW 21-3s-15w, has run electrical log to 2075 feet and is drilling below 4015 feet without shows.

Highlands County: Humble's Carleton Estate 1, C SW NE 17-38s-23e, is below 7777 feet in black lime.

Charlotte County: Humble's Treadwell 1, C SW NE 17-42s-23e, is below 2130 feet and preparing to skid derrick.

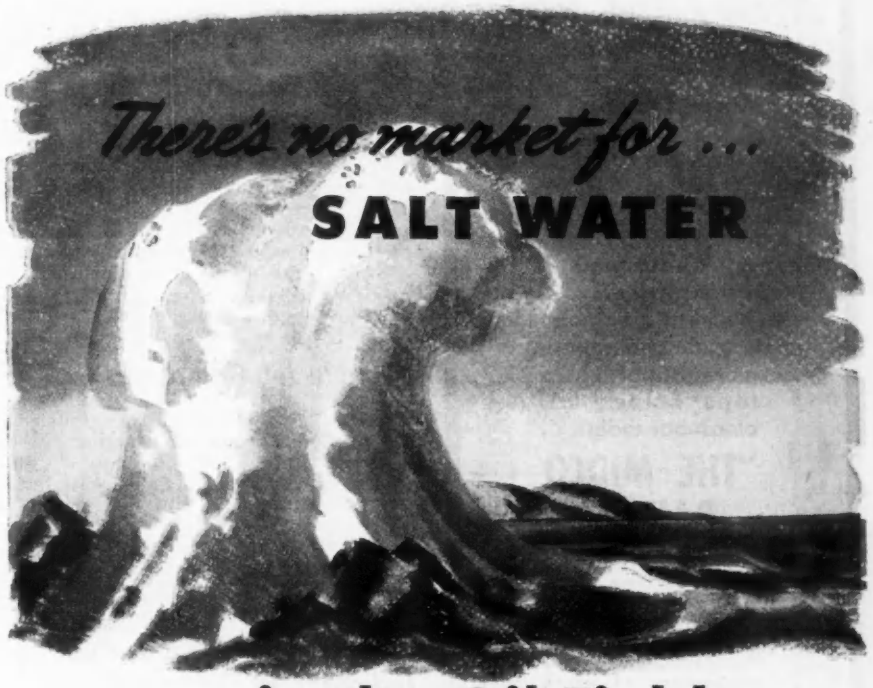
☆ Illinois Basin

White County, Illinois, Pool Given Extension

White County, Illinois, pool given mile extension; another extension of Mattoon pool attempted; new area opened near Cairo pool in Henderson County, Kentucky.

White County: Yoder's Holland 1, NE SW SW 36-6s-9e, has given the Herald pool a 1 mile west extension with Cypress sand production at 2696-2726 feet. On a drill-stem test, the well yielded 420 feet of oil and 60 feet of oil-cut mud.

Coles County: Beckman and others



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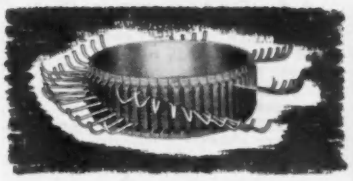

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are attempting another extension of the Mattoon pool at Harris-Rudy 3, NW NE NE 26-12n-7e, a south offset to the pool's newest and best producer, Carroll's Rudy 2, which is nearing completion for approximately 200 barrels daily from Cypress sand.

Wayne County: Fulk-Helgen's Weaver 1, which has extended the North Sims pool ½ mile north, produced 1440 barrels of oil in 48 hours from McClosky lime at 3200-10 feet and 3243-50 feet in McClosky lime, which was treated with 5000 gallons of acid. The well is in NW SE SW 4-1s-6e.

Hamilton County: T. B. Dirckson's Presley 1, SE SE SW 5-6s-6e, which extended the Rural Hills pool 1¼ miles northeast, yielded 225 barrels per day for 3 days during completion test in the Aux Vases sand after a 40-quart shot. Pay was found at 2099-3115 feet.

Kentucky

Henderson County: John L. Sallee has opened a new area 2 miles southwest of the Cairo pool at Lyles 1, 21-O-22. During a drill-stem test, the well made 930 feet of oil, 240 feet of gas and 70 feet of oil-cut mud from Cypress sand at 2276-2301 feet. The test was for 1 hour. Operator was waiting on cement.

Fleming and Swann's Pottinger 1, 1-O-22, 2 miles west of the Rock Springs pool, swabbed 6 barrels of oil per hour after plug was drilled to test Cypress sand at 2260-70 feet. The operator was placing the well on pump for additional tests.

Humble Job Completed

C. W. Sternberg, pipe line contractor, has completed a reconditioning job on Humble Pipe Line Company's 6-inch line from the Refugio field to Ingleside, Texas.

☆ Michigan

Small Gas-Producing Area Indicated by Discovery

Michigan Consolidated Gas Company completed Frizzell 1, C NE 23-17n-5w, Clare County, for 475,000 cubic feet of gas in Michigan Stray sand at 1471 feet for a discovery well. A small gas producing area is indicated.

Isabella County: Sohio Petroleum Company's Spencer 2, N½ NW SW 28-16n-6w, became the twenty-ninth consecutive 40-acre unit Dundee producing well in the Coldwater field, flowing 200 barrels on a 9-hour test at 3694 feet.

Dundee, logged at 3685 feet, was practically flat with south and west offset producing wells to indicate continuation of structure to northeast.

Unitization Program for Michigan Is Suggested

First proposed unitization program for both wildcat development and future field development has been proposed by The Ohio Oil Company and Sohio Petroleum Company on a 35,000-acre block in Oscoda and Ogemaw Counties of northeastern Michigan.

The land under lease is about ⅓ state-

PAGES 3079 THRU 3098 IN THE COMPOSITE CATALOG

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owned, ⅓ federal-owned and ⅓ privately-owned. The State Conservation Commission will act on the proposal for unit exploration and development at its meeting this month. Federal authorities already have given tentative approval.

Under the plan suggested wildcat exploration would be carried on by one of the 2 companies under a unit plan. If successful, field development also would be on the unit plan but probably not more than 160 acres would be included in each "royalty unit of development.

Extensive core drilling operations carried on by the 2 companies in the area last year definitely established a structure and the Berea sand was reported to have carried gas in commercial quantities.

Louisiana Leaders Urge Tighter Gas Conservation

Former Governor Sam Jones, addressing a meeting of Louisiana oil and gas men at a natural gas conservation hearing May 10, in New Orleans, urged greater conservation of the state's natural gas, which he predicted would play a critical role in postwar industrial plans.

A curb was urged on export of Louisiana gas to other states which have other fuel supply, because of the possibility of depleting this state's gas.

Joseph L. McHugh, state conservation commissioner, who presided, said the State Gas Conservation Committee had requested a compilation of the natural gas resources of the state, by means of a questionnaire which was given those present. Known gas reserves of the state will possibly be depleted in about 25 years. Full cooperation of all was asked in reducing flare gas to a minimum to aid in the conservation program.

Jones said natural gas would furnish one opportunity to bring about industrialization in Louisiana and consequently a balanced economy.

Jones declared the desire of the state government to stop flaring and burning of gas is not to punish operators, but to save the wealth of the state.

He added:

The desire to keep natural gas for benefit of the state is protection against outside encroachments of interests who already have ample fuel supply.

There is no disposition on the part of the state to deprive any producer of a market for his supplies nor to minimize the price at the well.

It is a desire to give a fair break to all owners of gas reserves.

Advertising Head Named By The Texas Company

Donald W. Stewart has been appointed manager of The Texas Company's advertising division to succeed the late Stephen M. Birch, according to H. W. Dodge, vice-president and general sales manager.

Stewart has been assistant to the advertising manager for 4½ years. He was employed by the advertising firm of Batton, Barton, Durstine, and Osborn, and subsequently was associated with the magazine Newsweek and with the J. Walter Thompson Company. He entered the service of The Texas Company April 13, 1936.

☆ California

New Oil Sand Cored Below 12,300 Feet in Paloma

Long Beach deep test recovers fish and was again drilling at 12,132 feet; new oil sand cored at Paloma.

Kern County: Standard Oil Company of California's Cahn 58-4, deep test of the Lost Hills area, cored a new oil sand, picked up at 9636 feet. Cores of good cut and odor were recovered between 9636-9646 feet, about 500 feet in Kreyenhagen. But a second core from 9651-9660 feet contained sandstone and very tight gray sand.

Western Gulf's L. A. Club 67-6 in 6-32-27, Paloma area, obtained a drilling break at approximately 12,656 feet and will take a core. Below the Paloma sand, between the present break and 12,584 feet, operator logged a shale body. The Superior Oil Company's Houchin 74-34 in 34-31-26, same area, cored a new oil sand, below the Paloma sand, at 12,305 feet and was coring at 12,350 feet.

In the Devils Den area, C.C.M.O.'s deep test, Bates 2 in 20-25-19, is coring below 8186 feet in hard gray sand with streaks of shale.

Santa Barbara County: Union Oil Company's B. Vincent 16 in 25-10n-34w was completed May 3 for 600 barrels of 15-gravity oil, 2.4 cut and 1 million cubic feet of gas. The well was drilled to 4266 feet into the Knoxville sandstone.

Los Angeles County: Shell Oil Company's deep test of the Long Beach field, Alamitos 48A, has recovered drill pipe

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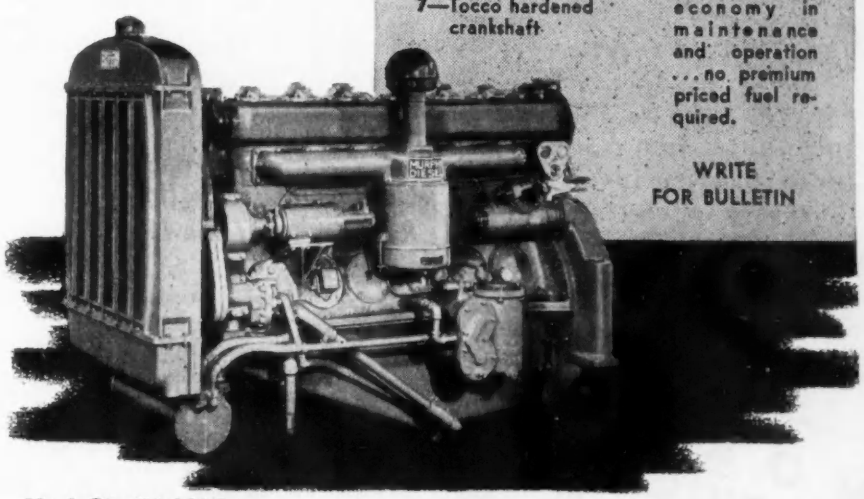

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fish and was again drilling slowly below 12,132 feet.

Standard of California plugged back its P.C.O. 42 in 1-3n-17w in the Pico Canyon district to 7577 feet and may abandon the well. Drilled as a deep test, present depth is 8258 feet. Dips have been steep.

In the Athens area General Exploration Company of California's Johnson 1 in 11-3-14 cored streaks of oil sand at approximately 8850 feet, with top of the oil showings placed at 8820 feet.

Glen County: Richfield has completed Afton Community 2-1 in 34-19n-1w as a gas well, good for 4,300,000 cubic feet through a 32/64-inch choke. Productive interval is between 2710 and 2720 feet. The well is ½ mile north of the discovery well, which flowed 6,200,000 cubic feet from 2648-2660 feet.

Imperial County: Amerada's Veysey 1 in 9-13s-14e, Brawley area, is prospecting below 7240 feet. The Texas Company's Grupe-Engebretson 1 in 8-16s-16e, which was drilled to 9014 feet, is redrilling below 8740 feet.

Orange County: Atha Exploration Company's Newland 12-3, 1 mile east of the Eastern tip of Huntington Beach field and a mile from the ocean front, blew in April 28 making from 3 to 5 million cubic feet of gas along with a spray of black oil. The hole is bottomed at 4960 feet. The gas is from 2160-2165 feet through 16/64-inch choke with 2-inch tubing run to 2178 feet. The company has announced location for a second test 330 feet north and 330 feet west of the gasser.

In the Costa Mesa area, Barnhart-Morrow Consolidated's Deeble 1 started flowing May 2 while installing pumping equipment and on May 4 was producing 120 barrels of 17.5-gravity pipe line oil. Bottom is at 2580 feet with plug at 2143 feet. O. F. Darling's Darling 1 was drilled to 2160 feet and was trying to pump very heavy oil. Delaney Petroleum Corporation-John McLeod's McCain 1 drilled to 3000 feet and is suspended. All zones were barren according to electric log. There are 3 other locations in this area.

California Production Reaches All-Time High

California crude production established a new all-time high in April of 930,300 barrels daily, according to estimates of the California Conservation Committee. This is 11,500 barrels daily above the previous record established in March of 906,800 barrels daily.

Bulk of the increase in April came from San Joaquin Valley fields, up 9000 barrels. Elk Hills production remained constant throughout April, averaging 63,100 barrels for the last ten-day period and for the month as a whole.

California's quota for May is 947,000 barrels daily.

Casabe Field of Colombia Now Ready to Ship Oil

Condor Petroleum Company of Colombia, Royal Dutch Shell subsidiary, at the end of April was making final connections on two 10-inch lines crossing the Magdalena River from its Casabe field to the Andian pipe line, which has been serving only the De Mares fields.

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ALABAMA WILDCAT

Winston County—Gas Discovery: Glen Rose's Boshell 1, c nw ne 18-12s-8w, elev 710 ft, show gas 1378-98, 1760-66, 1869-70, 3000 gals acid, 785,700 gas thru open tubing, td 2004 ft.

ARKANSAS WILDCATS

Chicot County — Failure: Lisbon Gasoline Co.'s E. W. Thudium 1, 2920 s 1030 e nwc 9-15-2, abnd 4095 ft.

Columbia County—Failure: G. H. Vaughn's McKissack 1, c se se 18-16s-21w, abnd 7852 ft.

Drew County — Failure: Curtis Kinard's (formerly A. E. McKieran et al) T. C. Deal 1, c nw se 29-11s-7w, abnd 4391 ft.

Pope County—Failure: Stanolind's B. G. Maxwell 1, c se se 18-8n-18, abnd 4849 ft.

CALIFORNIA WILDCATS

Kern County—Failures: Crestmont Oil Co.'s S.P. 1, 33-26s-28e, Mount Poso area, gray sand, abnd 1591 ft.

M. T. Grugg's 2, 15-25-24, Trico area, abnd 11,220 ft.

Standard's McNee 363-36B, 36-31s-23e, Buena Vista Hill's area, shale, abnd 3575 ft.

Kings County—Failure: Shell's Crow 42-2, 2-23s-16e, Reef Ridge area, abnd 7825 ft.

Orange County—Failure: Skylark Mfg. Co.'s Howe 1, 22-3s-9w, Yorba Linda area, plug 1350 ft, fresh wtr, abnd 4340 ft.

San Bernardino County — Failure: Chino Hills Oil Co.'s Kraemer-Backs 2, 33-2s-8w, Chino area, abnd 1366 ft.

FLORIDA WILDCAT

Gulf County—Failure: Pure's Kate Gaskin 1, nwc ne nw 19-5s-9w, abnd 5604 ft.

ILLINOIS WILDCATS

Clay County—Oil Discovery: J. J. Lynn's Allen 2, se sw se 25-3n-5e, Tar Springs 2199-2207 ft, pump 41 bbls, td 2207 ft.

Green County—Failure: L. J. Loyd's Bays 1, nw nw se 21-11n-12w, abnd 2432 ft.

Marion County—Failure: Magnolia's Robinson 1, se nw 10-2n-4e, abnd 2805 ft.

Richland County—Failure: Murry & Hayes' Kurtz 1, ne ne ne 21-3n-10e, abnd 3271 ft.

Shelby County—Failures: Phillips' Dove 1, se se nw 9-9n-4e, abnd 1973 ft.

William H. Krohn's Barnes 1, 31-11n-3e nw ne se, abnd 1900 ft.

White County — Failures: Magnolia's Williams 1, ne se 18-4s-9e, abnd 3537 ft.

H. H. Weinert's Milo 1, nw sw sw 4-5s-8e, abnd 3572 ft.

KANSAS WILDCATS

Barton County—Failures: Black Marshall Oil Co.'s Korkisch 1, nec sw 35-16s-12w, Cong 3360 ft, abnd 3426 ft.

W. L. Hartman's Hoffmeister 1, sw sw nw 25-20s-13w, Anhy 695 ft, Cong 3471 ft, abnd 3595 ft.

Barton County—Discovery: Solar Oil Co.'s Behrens 1, c n½ sw ne 6-20s-15w, Arb 3659-64 ft, flow 240 bbls, td 3664 ft.

Butler County—Failures: Texas Co.'s Hutchings 1, sec sw 26-27s-3e, Miss 2765 ft, Arb 3060 ft, abnd 4105 ft.

Skelly's Kennel's 1, ne se ne 20-28s-7e, Miss 2799 ft, abnd 2810 ft.

Graham County—Failure: Helmerich's Miller 1, swc 5-9s-21w, Arb 2777 ft, abnd 3823 ft.

Pawnee County—Failure: Continental's Norris 1, se sw ne 9-22s-20w, Arb 4636 ft, abnd 4702 ft.

Reno County—Failure: Kingwood Oil Co.'s Hilger 1, nw nw ne 29-26s-4w, Miss 3614 ft, Arb 4156 ft, abnd 4210 ft.

Rice County—Failure: Keyes Drlg. Co.'s Zink 1, sec 34-18s-10w, Arb 3266 ft, abnd 3310 ft.

Sedgwick County—Failure: R. Olsen's Larson 1, swc se 16-25s-3w, Arb 4117 ft, abnd 4684 ft.

KENTUCKY WILDCATS

Crittenden County — Failure: Jewell Resnick's Wood 1, 6-K-20, abnd 900 ft.

Daviess County—Failure: Miller & Shiarella's Howard 1, 3-n-27, abnd 2140 ft.

NORTH LOUISIANA WILDCAT

Tensas Parish — Failure: Carter Oil Co.'s Butts 1, 14-10-10e, abnd 9108 ft.

SOUTH LOUISIANA WILDCATS

Acadia Parish — Bayou Mallet Discovery: Union Sulphur Co.'s Mervine Kahn 1, 670.8 s 695.4 w of c 25-7s-1e, perf 9610-14 ft, flow 122 bbls 37.6-gr oil, 10% wtr, 7/64-in, gor 595/1, tp 1300 lbs, td 10,320 ft.

Vermilion Parish—Failure: California Co.'s San Jean LaFitte 1, begin sec 12-17s-2e, go n 35° 57 mins 10 secs w 14,707 in 35-16s-2e, abnd 11,850 ft.

MISSISSIPPI WILDCAT

Jones County—Failure: Gulf's W. A. Valentine 1, 4-9n-13w, abnd 8305 ft.

MISSOURI WILDCAT

Atchison County—Failure: Claude McQueen et al's Patterson 1, nwc ne 14-64n-38w, B Hertha 895 ft, abnd 1500 ft.

NEW MEXICO WILDCAT

Eddy County—Failure: Martin Yates, Jr., et al's State-Yates & McKee 2, se ne sw 24-19s-29e, elev 3347 ft, salt 370-1370 ft, abnd 1880 ft.

NEW MEXICO OUTPOST

Lea County — Drinkard - Yeso Extension: Samedan Oil Corp.'s Boyd 1, c nw se 23-22s-37e, 1⅞ mi w by n of pool's disc, elev 3330 ft, base salt 2375 ft, Yates 2520 ft, San Andres 3870 ft, Holt 4700 ft, Glorietta 5050 ft, Clear Fork (Yeso) 5500 ft, flow 192 bbls 39.6-gr oil, 5% sw, gor 1127/1, natural via ¼-in Yeso 6370-6440 ft, td 6455 ft.

OKLAHOMA WILDCATS

Bryan County — Failure: Amerada's Williams 1, ne ne sw 27-6s-7e, flow 186 bbls 1st 24 hrs fr Penn sd, abnd 3257 ft.

Caddo County—Failure: Texas Co.'s Warden 1, se se se 17-8n-10w, abnd 10,334 ft.

Comanche County — Failure: Texas Co.'s Weaver 1, nw sw se 19-4n-10w, abnd 6445 ft.

Garvin County—Failure: C. W. Roodhouse's Warren 1, se se ne 34-4n-1e, Vi 3820 ft, abnd 3850 ft.

McClain County — Discovery: Carter Oil Co.'s McBride 1, se nw 9-7n-3w, broken sd 10,601-47 ft, flow 2500 bbls, td 10,647 ft.

Oklahoma County—Failure: British-American's Reece 1, ne ne ne 18-14n-1w, Bvs 5616-21 ft, Hunt 5773 ft, abnd 6140 ft.

Payne County—Failure: Wilcox O&G Co.'s Ross 1, se se sw 29-19n-6e, 2nd Wilcox 3614 ft, abnd 3643 ft.

Seminole County—Failure: Pure's Alliance

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1, ne ne ne 9-5n-7ecm, Syd, ls 3628-42 ft, Blaine 770-1025 ft, abnd 4972 ft.

Stephens County—Failure: Harry Parmore's Branch 1, sw sw sw 31-1s-7w, shale 1670 ft, abnd 2508 ft.

WEST TEXAS WILDCATS

Crane County — Failure: Sinclair Prairie's McKnight 1, c se se PSL 6, blk B-22, elev 2836 ft, anhy 1030 ft, Yates 3320 ft, San Andres 3850 ft, base Permian 7360 ft, Devonian chert 7925 ft, Silurian 8835 ft, Simpson 9205 ft, Ellenburger 10,330 ft, abnd 10,884 ft.

El Paso County—Failure: J. S. Meriwether Sr. et al's Bobadilla 1, c nw nw sect 254, State Survey Scrap File, 2 mi ne Vinton, brown li 310 ft, base San Andres 958 ft, abnd in granite-wash 1578 ft.

Pecos County—Failure: Pure's Tanquary 1, 664 ft nsl 4513 ft ewl of sect 4, blk 183, W. J. Mitchell sur, elev 3319 ft, anhy 850 ft, Rustler 1010 ft, salt 2610 ft, Lower Castile 3230 ft, Lamar 4721 ft, Delaware sd 4758 ft, abnd 5260 ft.

WEST CENTRAL TEXAS WILDCATS

Mills County—Failure: N. M. Miller et al's Niemann 1, 5313 ewl 5764 nsl of Jas. A. Winn sur, abnd 3630 ft.

Palo Pinto County—Failures: W. H. Carter et al's K. K. Corn 1, 1300 nsl 330 ewl of TE&L Co. sect 2006, abnd 2510 ft.

W. K. Gordon et al's Long 1-71, 990 snl 660 wel T&P Ry. 71, blk 2, Ellenburger 4486 ft, abnd 4518 ft.

WEST CENTRAL TEXAS NEW PAY TEST

Stephens County—N. Caddo Deep Discovery: American Mfg. Co.'s Rogers 1, 800 out swc T&P Ry. 27, blk 5, elev 1385 ft, Ellen 4458 ft, flow 92 bbls 46-gr, 16/64-in, 6000 gals acid in Ellenburger 4470-4513 ft.

SOUTH CENTRAL TEXAS WILDCAT

Wilson County — Failure: Quintana Pet. Corp.'s Annie L. Moore 1, 1200 fr nwl 1100 fr swl 125-ac lse, David O. Warren Lge, jkd and abnd 7270 ft.

SOUTHWEST TEXAS WILDCATS

McMullen County — Failure: Quintana Pet. Corp.'s South Tex. Synd. 2-F, 1000 fr wl 1750 fr sl sect 14 on 96,000-ac lse, J. Fitzpatrick sect 14, Reklaw 3945 ft, abnd 3968 ft.

Starr County—Failure: V. F. Neuhaus-J. A. Tarver's H. P. Guerra et al 1, 330 wly fr nwc tr 11 380 swly fr inter. cor nl of tr 10 650 e of wl of tr 10 47-ac lse pore 79, abnd 916 ft.

Zapata County — Failure: Geo. H. Echols' Volpe Est. 2, 3350 fr nwl 4375 fr nel 300-ac lse, pore 31, sh 1, abnd 3311 ft.

LOWER TEXAS COAST WILDCATS

Bee County—Failures: Hewit & Dougherty's T. W. Wolfe 1, 614.5 fr nl 467 fr wl of 166-ac tr 614.5 fr sl 100-ac lse T. B. Barton sur, Slick sd 6635 ft, Luling 6749 ft, Massive 7009 ft, abnd 7515 ft.

Rowan & Hope's J. T. Barroum Est. 1, 467 fr nw&swl 300-ac lse, J. M. Planes sur, abnd 4317 ft.

UPPER TEXAS COAST WILDCATS

Brazoria County—Failure: Jack W. Frazier's J. C. Thompson et al 1, 330 fr n&el n 80-ac of Thompson et al 160-ac in HT&B sur, sect 77, abnd 6954 ft.

Liberty County — Failure: Glenn M. McCarthy's A. G. Blanke 1, 850 fr nl 400 fr el 115.6-ac lse, 2800 n of sl Levi Barrow sur 125 e of Devers-Anahuac highway, abnd 8480 ft.

Matagorda County — Failure: J. A. Gray's Chas. Bever 1 330 fr n&el 80-ac lse, I&GN sur 2300 fr nl 330 fr el sect 14, abnd 6515 ft.

Tyler County—Failure: Humble's Denman-Kountze et al 2-B, start nwc GB&N sur 40 go e alg nl 3850 th s at ra 3060 to lcn 1230 nw of sel of 3009-ac lse and GB&N sur, abnd 8487 ft.

UPPER TEXAS COAST NEW PAY TEST

Brazoria County — East Danbury Failure: Humble-Stanolind's South Tex. Rice Prod. Co. 2, 1457 fr sw&sel 400-ac lse, 1422 n ne of operators' South Tex. gas-cond disc well 1, abnd 10,625 ft.

UPPER TEXAS COAST OUTPOST

Chambers County — Smith Point Failure: Standard of Tex.'s State-Galveston Bay 1-135, 1980 fr nwl 660 fr nel sect 135 640-ac lse, sw of wells in sect 110, abnd 9800 ft.

EAST TEXAS WILDCATS

Henderson County — Failure: Texas Co.'s Morse 1, 2120 ewl 5150 snl of Santiago Calderon sur, Chandler prospect, elev 359 ft, Pecan 3087-3310 ft, Austin 4345-4620 ft, Woodbine 4960 ft, Buda 5922 ft, Georgetown 6127 ft, Paluxy 7262 ft, Glen Rose 7584 ft, massive anhy 9082-9350 ft, James 9865 ft, Pettit 10,138 ft, Travis Peak 10,302 ft, abnd 10,643 ft.

Houston County — Failure: Keith Railway Equipment Co.'s Knox 1, 450 fr nwl 367 fr nel of 270-ac lse, Omy Weir sur A-93, elev 312 ft, abnd 2800 ft.

NORTH TEXAS WILDCATS

Archer County—Failures: Delbar Co.'s Abercrombie 1, 1050 ewl 1500 snl of blk 153, J. W. Harris subdvn, abnd 1240 ft.

Wilder Dr. Co.'s Taylor-Abercrombie 1, 450 snl 150 ewl of e 169.18-ac tr, blk 14, J. W. Harris subdvn, abnd 1500 ft.

Clay County—Failure: Continental's Hillin 1, 467 snl 1400 ewl of TE&L Co. sect 3290, 2 mi sw Wynn-Mississippi pool, elev 1043 ft, Bend 5863 ft, Simpson dolomite 6532 ft, Ellenburger 6658 ft, abnd 6821 ft.

Cooke County—Failure: Nu-Enamel Oil Operating Co.'s Biffle 1, 2818 w 1290 n of sec of A. J. Miller sur A-635, elev 867 ft, detrital 1740 ft, abnd 2120 ft.

Montague County—Failure: Fisher & Buckingham's Copeland 1, 2950 e 2150 s of nwc of Newton Kimbro sur A-405, abnd 700 ft.

Wichita County—Failure: Nixon Pet. Co.'s Heiserman 2, 750 ewl 150 snl of Juan Armendaris sur A-13, abnd 2003 ft.

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ADVERTISING RATES

TRADING POST SECTION

Regular classified advertisements for this special section, set in type this size without border, take flat-rate of 7 cents per word for the first insertion and 5 cents per word for each subsequent insertion of same copy. Display advertisements for this section, set in suitably larger type with ruled border, are $5.00 per inch for the first insertion and $4.00 per inch for subsequent insertions. Remittance must accompany copy which should be sent to:

Trading Post Section, The Oil Weekly
P. O. Box 2608 Houston 1, Texas

WILDCAT STARTS

CALIFORNIA

Kern County: Bender Dr. Co.'s 14B-1, 14-28s-28e, West Round Mt. area, lcn.
J. Paul Getty's Derby 23, 33-30s-29e, Mt. View area, lcn.
Kern Oil Co.'s 17-34, 34-29s-29e, Race Track Hills area, lcn.
Richfield Oil's Tejon A, 15-31, 31-12n-18w, Tejon area, lcn.
Kings County: H. H. Magee's Von Glahn 2-1, 2-23s-21e, Tulare Lake area, lcn.
Los Angeles County: Seaboard Oil's Evans 1, 23-3n-16w, Aliso Canyon area, lcn.
Wilshire Oil's Mission 1, 35-3n-16w, Aliso Canyon area, lcn.
Orange County: Atha Exploration Co.'s 12-4, 12-6s-11w, S. E. Huntington Beach area, lcn.
Emil Menvig et al's Menvig 1, 21-6s-10w, Costa Mesa area, lcn.
National Iron Works' Duble 1, 18-6s-10w, Costa Mesa area, lcn.
Tulare County: Shell's Parson 36-1, 1-23s-25e, Pixley area, lcn.
Ventura County: Shell's McBean 1, 33-3n-20w, Long Canyon area, lcn.

ILLINOIS

Effingham County: Standard Drlg. Co.'s Gieseking 1, nw sw ne 19-7n-5e, lcn.
Frank L. Strickland's Wenthe 1, nw sw sw 4-7n-6e, lcn.
Hamilton County: National Assoc. Pet.'s Hall 1, se sw ne 9-5s-7e, lcn.
Jefferson County: Texas Co.'s Carson 1, nw se se 1-4s-1e, lcn.
Marion County: Ray E. Johnston's Lynch 1, nw sw 26-2n-1e, lcn.
Washington County: Texas Co.'s Doelling 1, c ne se 30-1s-3w, lcn.
Wayne County: Magnolia's Borah 1, sw sw sw 4-1s-9e, dr.
W. F. Lacy et al's Weber 1, se se ne 26-1n-9e, lcn.
White County: H. O. Yoder's Holland 1, ne sw sw 34-6s-9e, lcn.

INDIANA

Posey County: J. A. Boland et al's Stein 1, se se nw 12-6s-13w, lcn.
Spencer County: George Hobbs et al's Lawberg 1, sw nw nw 29-7s-7w, lcn.

KANSAS

Barber County: J. M. Huber's Weber 1, se ne se 22-30s-14w, dk.
Barton County: Ainsworth Bros.' Fenn 1, sw sw ne 7-19s-14w, lcn.
W. L. Hartman's Gaunt 1, ne ne se 3-20s-13w, lcn.
Butler County: Vickers Pet. Co.'s Joseph 1-C, se se ne 1-24s-3e, mist.
Skelly's Starkey 1, se se ne 33-28s-7e, lcn.
Cowley County: Barbara Oil Co.'s Jarvis 1, se sw sw 19-32s-8e, lcn.
Ellis County: Virginia Drlg. Co.'s Zimmerman 1, se se nw 36-15s-19w, lcn.
Finney County: Atlantic's Wright 1, se nw nw 33-21s-34w, lcn.
Stafford County: Max Cohen's Langer 1, 4-21s-14w, nw nw ne, dr.

KENTUCKY

Ohio County: H. P. Maier's Albin 1, 12-K-34, lcn.

NORTH LOUISIANA

Madison Parish: V. S. Parham Co.'s Kathan & Johnson 1, 3320 ft s 760 ft w nec 35-18-10e, lcn.

SOUTH LOUISIANA

Cameron Parish: Continental-Yegua's A. Dobbertine 2, 790 n 1650 w of sec 9-15s-14w, 10,500-ft test.
Superior's Miami Corp. 1-E, 330 n&w of c of 9-14s-5w, Catfish Lake area, 12,000-ft test.

MISSISSIPPI

Jeff Davis County: Humble's J. H. Williams 1, c nw nw nw 13-7n-18w, Tuscaloosa test.
Lincoln County: Roeser-Pendleton's W. L. Case 1, 8-7n-7e, 11,000-ft test.
Madison County: Union Prod. Co.'s E. P. Cameron 1, c ne se 8-9n-2e, Tuscaloosa test.

MISSOURI

Atchison County: Dan Short's Rankin 1, sec 9-65n-40w, rum.

OKLAHOMA

Carter County: R. H. Alexander's Fish 1-A, se se se 10-1s-2w, pits.
Garfield County: Owen Acton's School 1, ne ne nw 36-21n-4w, rur.
Garvin County: M. S. Ingleright's Carter 1, se se ne 28-3n-2e, tools on lcn.
Lake Oil Co.'s Ernest 1, sw se se 11-4n-3e, rur.
Hughes County: Deep Rock's Henley 1, se se ne 1-5n-9e, dr.
Pawnee County: Transwestern Oil Co.'s Brazada 1, ne sw sw 33-22n-3e, rog.
Pontotoc County: M. C. Mitchell's Norman 1, se ne se 8-5n-4e, lcn.
Seminole County: W. A. Delaney's Damron 1, se se nw 7-5n-6e, dr.

WEST TEXAS

Crockett County: Gulf's University 1-O, c ne ne sect 12, blk 29, mim for 10,000-ft Ellen obligation test on 4160-ac block.
Stonewall County: General Crude's W. H. Bryan 2, 360 ft nsl 660 ft wel of nw¼ sect 11, Austin & Williams sur No. 348, mim for 6500-ft Ellenburger test.

SOUTH CENTRAL TEXAS

Bastrop County: E. L. Stecke et al's B. Friske 1, 330 fr se&swl 145-ac lse, J. G. Lentz sur 20, Hilbig outpost test, ru.
Dimmitt County: Calendonia Oil Co.'s Eardley 1, 427.5 fr s 1320 fr wl 201.47-ac lse, W. A. McCorquadale sur 6, 5 mi nw Carrizo Springs, 3000-ft test.

SOUTHWEST TEXAS

Webb County: F. B. Lefevre's Pedro Leal et al 1, 330 fr n&wl se¼ J. Poitevent sur 460 449-ac lse, 2900-ft test.
Zapata County: Geo. H. Echols' T. Dominguez 1, 660 sw of nel 660 se of nwl 401-ac lse, porc 31 Sh "A", previously reptd abnd in error, ru.

LOWER TEXAS COAST

Jackson County: R. N. Ranger's H. Landa 1, 330 fr n&el 468.3-ac lse, J. Pierce sur, 5500-ft test, spud.
Jim Wells County: Fidelity Oil Co.-Royalty Oil Co.'s Alex A. Sharp 1, 330 fr nl lot 35 and on lines between lots 35 and 38, 1215-ac lse, El Paisano sur, blk 12, subdvn of lands adj LaGloria twnst, 8200-ft test.
San Patricio County: Goldrus Dr. Co.'s T. M. Ganaway 1, 467 fr wl lot 5, 467 fr nl lot 5 and 281.95-ac lse, Coleman-Fulton Pastr subdvn sect 1, 7500-ft test.

UPPER TEXAS COAST

Austin County: Sinclair Prairie's W. A. Schweke 1, 800 fr nwl 787 fr sel 2000 fr nel 148.21-ac lse, James Tylee sur, 2 mi se New Ulm, 10,000-ft test.
Brazoria County: G. S. Hinkle's H. L. Trammell 1, 660 fr sl 330 fr el tr 29 on 40-ac unit, 151.5-ac lse, David Talley sur, reinstated, dr 4750 ft.
P. H. Pewitt's R. C. Storriss et al 1-A, 330 fr wl 990 fr sl 125-ac lse, J. E. Groce 5-Lge Gr, Stratton Ridge area, 1500-ft test.
Colorado County: Skelly's R. Hamel 1, 466 fr n&w, 203-ac lse, R. Dowdy sur, 9500-ft test.
Stanolind's Hayes Stephens 1, 2310 fr nwl 1650 fr swl 320-ac lse and GH&H sur 26, Chesterville area, 9750-ft test.
Sun's Tulane Gordan 1, 4145.8 fr nel 660 fr nwl sect 9 GH&H sur 1234-ac lse, Chesterville area, elev 152 ft, 9650-ft test.
Harris County: Francis M. Blair, Jr.,'s Jos. E. Meyer 1, 330 fr n&el 40-ac unit 330 w of wl of H. G. Caldwalder 46-ac tr on 460-ac lse WCRR sur, elev 78 ft, 7500-ft test.
Lavaca County: Tide Water's Geo. K. Baum 1, start m/nly/nec McKenzie sur go swly alg nwl sur 3098 th 1601 sely at ra to lcn, 660 ne of nec of G. Wilgers sur 2, 1½ mi sw Sublime fld extension test, 10,000-ft test.
Washington County: Phillips' Mrs. H. Priesmeyer 1, start e cor S. M. Williams sur go swly alg el 2875 th nw at ra 3750 to lcn.

EAST TEXAS BORDER COUNTIES

Harrison County: W. W. Lechner's B. C. Quinn 1, 70-ac tr, Vashti Gibbs sur, 1½ mi sw of Harelton, deep test.

NORTH TEXAS WILDCAT STARTS

Archer County: C-N Drilling Co.'s J. M. Black 1, 1200 ft out NWc of Allison Armes sur A-5, sd 1322 ft.
Cooke County: Douglas Helms et al's Lee Blocker 1, 250 ft from nw and 400 ft from sw lines of 81-ac lse, J. Rodriguez sur A-880, lcn.
Jack County: Continental Oil Co. et al's S. F. Borden 1, 990 ft out of nwc of E. S. Wilson sur A-1729, 4¼ mi se Newport, lcn 7000-ft Ellenburger test.
Wichita County: Fain-McGaha et al's Ed Hennig 1, 660 ft snl and 330 ft ewl of John Thomas sur A-283, lcn 5000-ft Ellenburger test.

TEXAS PANHANDLE

Dallam County: Texas Co.'s Capitol Freehold Land Trust 1, 660 out of sec sect 10, blk 7, Capitol Syndicate Lands, mim for 7000-ft Ellenburger test.

WESTERN CANADA

South Alberta Plains—Conrad: California-Standard Co.'s Conrad-Province 51-5A, se lsd 3 5-6-15w4th, ru.

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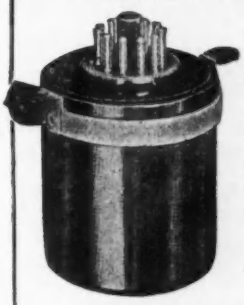

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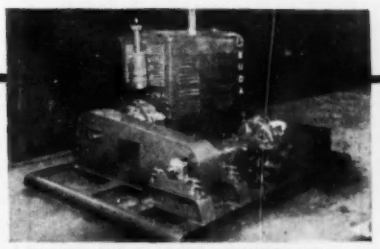

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SQUEAKS from the BULL WHEEL

S'no Problem

A customer in a cafe reading headlines in a newspaper about a near-tragedy asked the waitress, "How would you like to be buried in a snowdrift for 18 hours with your sweetie?"

"That wouldn't be so hard to take. Give us 15 minutes and we'd swim out."

Student's Lament

The first I'd really like to slam
Is the one who copies my exam;
The other is the dirty skunk
Who covers his and lets me flunk.

Good Intentions

"May I help you with your soup, sir?"

"Why should I need any help, waiter?"

"Sorry, sir. From the sounds you were making I thought you might like to be dragged ashore."

The $64 Question

A young mother, somewhat embarrassed, had just unburdened herself and told her son the facts of life. At the end she said, "Now if you want to know anything else, ask me."

The lad pondered a moment, then said: "How do they get the Saturday Evening Post out on Tuesday?"

Properly Polite Peeker

A young American woman in China remonstrated with her houseboy for taking linen into her bedroom without knocking.

"It's okay, Missy. Every time come, lookee through keyhole. Nothing on, no come in."

Hard to Stomach

While breakfasting, a bachelor saw this inscription on a boiled egg: "If you are a young man who wishes to marry a farmer's daughter, age 18, write . . ."

He wrote, and back came a letter: "Too late! I'm married and have two children."

This Makes No Cents

"Let's talk about taxes."

"Okay, that's where my brother lives."

"No, you're thinking about Texas; I'm talking about taxes—dollars and cents."

"That's-a-right—Dollas, Texas."

Seein's Deceivin'

Bus driver: "Can't you see that sign? It says 'No Smoking'."

Passenger: "Sure, bud. But you got a lot of goofy signs in here. One of 'em says, 'Wear Nemo Corsets.' I ain't paying any attention to any of them.

Poet's Nook

Ring around the bathtub
Fourteen inches high.
Four and twenty boarders
All as sore as I.

When the door is opened,
The bird that leaves a ring
Is going to be as sad a sight
As the guy who used to sing.

Encore

"I draw the line at kissing,"
She said with fiery intent;
But he was a handsome football star,
So over the line he went.

Good Reference

"Little boy, I need a dozen eggs from the store. Could you go for me?"

"No ma'am, you ain't my type. But I heard the old man say he could.

Definitions

A good girl always sticks to "No."
A bad girl always "Yesses."
A smart girl makes them sound alike.
And holds them all to guesses.

This Curious World

Woman (sitting on a suitcase in a luggage shop): "Haven't you anything more comfortable? I'm planning a long trip."

A friend who is pretty well fed up on alphabetical bureaus has suggested a change in designation for the Office of Price Administration. It is his idea that the letters used should, by their very sound, carry a significant connotation. Instead of OPA he would use O PU.

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MEN IN THE INDUSTRY NEWS

Walter Helmerich of Tulsa has been elected president of Cardinal Oil Company, San Angelo, Texas, producing and pipe line firm acquired by Helmerich & Payne, Inc., last March through the purchase of the bulk of the capital stock for reported consideration of $4,000,000. **Dr. George D. Morgan,** the retiring president, Helmerich and **Harold E. Tipps,** secretary-treasurer, comprise the new board of directors. Operating headquarters will be retained at San Angelo.

Walter Helmerich

Arthur Proudfit, president of Creole Petroleum Company with headquarters in Caracas, Venezuela, is due in the United States this week for a short stay.

L. Cade, superintendent of Creole Petroleum Company at San Joaquin, Venezuela, is a visitor in Houston.

G. S. Dille and **A. L. Dade** have been elected vice presidents of Deep Rock Oil Corporation, Tulsa. Dille will be in charge of land and exploration, and Dade will be in charge of crude oil supply.

Colin P. Chisholm, former Gulf Coast chief scout for The Pure Oil Company, has been appointed Texas agent for Grant and Mohan Oil Company of Bradford, Pennsylvania, with operating office in Houston.

Jay Simmons, Dallas, producer and drilling contractor, and associates have organized the Drilling & Well Servicing Company with a Delaware charter. Headquarters will be at 1604 Republic National Bank Building, Dallas.

James M. Delmar, formerly with Gulf Brewing Company in Houston, has been named assistant director of industrial relations for Hughes Tool Company.

Major James O. Lindsey has been discharged from the U. S. Air Force after three years and will shortly resume his duties in the purchasing department of Shell Oil Company at Tulsa.

M. L. Walraven, Jr., has been placed in charge of sales management for Kobe, Inc., in the company's northern districts covering Oklahoma, Kansas, Wyoming, Nebraska and Illinois, with headquarters at Tulsa.

Louis Campbell, landman and manager of Magnolia Petroleum Company in Oklahoma, will retire July 1 after 34 years of service with the company.

H. G. Schad has been elected vice president of The Atlantic Refining Company. He joined Atlantic as assistant to the general manager of transportation in 1925, and was made general manager in October, 1941. He is a vice president and director of the Keystone Pipe Line Company and the Buffalo Pipe Line Corporation, and a director of The Atlantic Pipe Line Company, all subsidiaries of The Atlantic Refining Company. He is also a director of War Emergency Tankers, Inc.

C. E. Benham, engineer with the Texas Railroad Commission oil and gas division, Kilgore, has been placed in charge of the Carthage, Texas, gas field conservation program.

E. I. (Tommy) Thompson, of Houston, independent oil operator and publisher of a newsletter of home activities sent regularly to 4000 servicemen, has been named chairman of a Harris County committee to help returning war veterans find work.

R. C. Thomson, head of the refining deparement of Anglo-Iranian Oil Company with headquarters in London, is a visitor in the United States and was in Houston during the past week.

Calhoun Davis, scout at Wichita Falls, Texas, for Midstates Oil Corporation, has been transferred to Abilene, Texas.

E. C. Whitehead, drilling superintendent for Caribbean Petroleum Company at Maracaibo, Venezuela, is in Houston studying new developments in equipment, methods and operations in the Gulf Coast area.

W. W. Runkle, district manager of Hazard Wire Rope Division of American Chain & Cable Company for the past 16 years in the Mid-Continent area, with headquarters at Fort Worth, has been transferred to Pittsburgh. He will be district manager of the Hazard Wire Rope Division in the Pittsburgh territory and will also supervise sale for the American Cable Division in that territory. His headquarters will be at 911 Empire Building, Pittsburgh. **H. S. Frady** will succeed him as district manager of the Mid-Continent district for Hazard Wire Rope Division, with headquarters in Houston. He joined the company in 1930 and has been covering various territories for the company since that time. During the last two years he has been covering West Texas and New Mexico, with headquarters in Dallas.

W. W. Runkle

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BE SURE TO CHECK THE
TRADING POST SECTION
ON PAGE 88 OF THIS ISSUE

MEN IN THE INDUSTRY NEWS

H. Lester Freeman has been appointed Washington representative for the export division of Oil Well Supply Company, U. S. Steel subsidiary. Freeman has filled several important PAW posts. He was employed by the Soc. Romano-Americana in Roumania from 1926 until 1941. He served in various capacities with this foreign subsidiary of the Standard Oil Company of New Jersey, becoming assistant purchasing agent in 1930. In 1935 the Standard Oil Company sent him to London as assistant to the European manager of the foreign production department. In 1937 Freeman returned to Roumaina as assistant to the manager of the Romano-Americana's production department.

H. Lester Freeman

Returning to the United States in 1941, he assisted in the organization of the Portland Pipe Line Company.

George G. Main has been elected assistant treasurer and assistant secretary of the Westinghouse Electric and Manufacturing Company, Pittsburgh. In addition to his new duties, he also will be credit manager, and will have his office in the Union Bank Building in Pittsburgh.

Gorham W. Woods has joined The Lincoln Electric Company, Cleveland, as research engineer, and will devote a major part of his time to electrode development. Woods was chief chemist of Hughes Tool Company, Houston, for seven years, and development engineer of the same firm for 12 years.

N. K. Daerr has been appointed sales manager for Fort Pitt Steel Casting Company, a division of the H. K. Porter Company, Pittsburgh. He has been associated with the specialty casting foundry since 1923. Prior to his appointment in 1940 as sales engineer in charge of the Eastern territory he was manager of the manufacturing division.

Edward J. Whetzle has been appointed advertising manager of International Derrick & Equipment Company, Columbus, Ohio.

Whetzle has been active in both engineering and advertising for 20 years in this country and in South America. He formerly was assistant advertising manger of The J. B. Beaird Company, Shreveport.

E. J. Whetzle

Dave Smith has joined Western Gear Works, Seattle, Washington. His activities will be concerned with engineering of oilfield products which include Pacific-Western pumping units, speed reducers and increasers, and bandwheel drives.

He was formerly with Emsco Derrick & Equipment Company and served in an engineering capacity at the Los Angeles plant, and also as chief engineer at the Houston plant.

Dave Smith

William C. Finch, former divisional geologist of the Shell Oil Company, at Bakersfield, California, now fire marshal in the engineers section at a headquarters of the CCC near Kunming, China, recently was promoted from second to first lieutenant.

Stuart Buckley of Humble Oil & Refining Company, Houston, addressed the student section of the American Institute of Mining Engineers at The University of Texas on "Production Research."

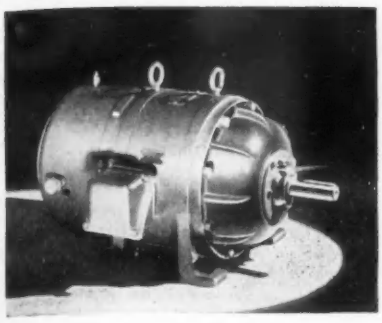
John S. King has been appointed manager of the pump division of Fairbanks, Morse & Company, with headquarters at 600 South Michigan Avenue, Chicago. He began his association with the company as a student in the Beloit plant, where he assembled and tested pumping equipment and diesel engines. In 1921 he was transferred to the Indianapolis works of the company. A year later he joined the sales force of the Chicago branch and in 1930 he was made manager of the pump department of that branch. In 1937 he was appointed manager of the firm's New Orleans branch.

Deaths

Lieut. James E. Overstreet, former petroleum engineer for Wilcox Oil & Gas Company, Tulsa, was reported killed in a vehicle accident April 24 in the Philippines. He had been overseas 15 months with the 105th Field Artillery.

Lieut. Eugene F. Huff of Tulsa, formerly with Gulf Oil Corporation, was reported killed on a flight over Germany April 23. He had been in the service since 1942.

Alfred L. Goeke has been named service manager of the Tulsa, Oklahoma, branch of Westinghouse Electric Supply Company.



1—Explosion-Proof Motor

General Electric Company, Schenectady 5, New York, announces a new Class I, Group C, explosion-proof motor, for atmospheres containing ethyl-ester and similar vapors. The motor is especially recommended for use in laboratories.

Available in frame sizes 204-326, and in Type K (normal torque) and KG (high-starting-torque), the new motor is rated ¼ horsepower at 600 revolutions per minute to 20 horsepower at 3600 revolutions per minute, 110, 208, 220/440, 550 volts, 60, 50, 25 cycles. The construction is essentially the same as the Class I, Group D motors, but a special flamepath is used at the shaft openings to cool the flame of internal explosions. Thermostats operate in conjunction with a magnetic controller to disconnect the motor at a predetermined temperature, but do not supplant regular overload relays.

Other features include a cast-iron stator, a four-position cast-iron conduit box, and strong end shields of high-grade, corrosion-resistant cast iron with reinforcing cooling ribs. Effective cooling is provided by a non-sparking fan, and a convenient pressure-relief system provides for ease of lubrication without disassembly of the motor.

2—Safety Splice

American Chain & Cable Company, Bridgeport, Connecticut, announces a new method for splicing wire rope into slings or various assemblies, which is said to give a neater and more compact splice than is possible by the hand method. The splice is flexible clear to the terminal and always develops 100 percent of the strength of the rope.

Because the rope is not distorted in splicing, equalization of stresses in all strands is maintained. The splice applies the load stress in direct line with the pull of the load. It may be used with any standard fitting, hook, ring, shackle, thimble, etc.

3—Self-Propelled Crane

The Thew Shovel Company, Lorain, Ohio, announces the Self-Propelled Lorain 20-ton crane in which the turntable engine is used to power the carrier as well as the turntable.

The unit, mounted on six wheels, each equipped with dual 11 x 20 rubber tires, is operated by one man.

Power is drawn from the engine on the crane revolving turntable and transferred to the carrier through an auxiliary travel shaft and center pin. Gasoline or diesel engines are available. By means of a two-speed transmission on the turntable and a transfer case in the chassis, four travel speeds ranging from one to seven miles an hour are provided. All speeds are available on forward or reverse.

The final drive is by two rear worm-driven Timken axles arranged in tandem, and connected by a through drive. Full floating axle shafts and a parallel torque rod system are incorporated in the design. The two rear axles are mounted on rocker arms which replace the conventional springs.

The front axle has a special wide track for mounting dual wheels and is mounted on heavy duty springs equipped with auxiliary rebound springs.

Steering of the unit is effected by positive application of air controlled by a single handle lever at the operator's position in the cab.

Bendix Westinghouse air brakes are standard equipment on all four rear wheels. The control of the brakes is located at the operator's position in the cab.

The chassis frame of the carrier consists of an all-welded tube of rectangular cross-section for torsional resistance.

The revolving turntable may be made to hoist, swing, and travel simultaneously.

All controls for all crane and clamshell operations, as well as those controlling the steering, the brakes, the choice of forward or reverse, and the controls for the two-speed transmission, are within easy reach of the operator.

The boom is of all-welded construction, of pin-connected style to permit quick insertion of center sections for longer booms.

4—Sealing Compound

Wilmington Chemical Corporation, 10 East 40th Street, New York, in collaboration with the Synvar Corporation, Wilmington, Delaware, announce the availability of a resinous compound, develope despecially for sealing oil wells. The new product, known as Synvar Oil Well Sealing Compound, provides a water- and oil-resistant seal, and forms an integral and uniform structure with rock formation and pipe. A minimum of shrinkage is assured, and the new compound can be used at any practical temperature.

The product is applied in separate components which are combined just before use, with the proportions of the different components adjusted to suit existing well conditions.

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THE OIL WEEKLY
P. O. Box 2608, Houston 1, Texas, U.S.A.

Please have the manufacturers send me, without obligation, more information or literature on items checked below. (Numbers correspond to descriptive paragraphs as shown in May 14 issue of The Oil Weekly):

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16

Company_____

Name_____ Title_____

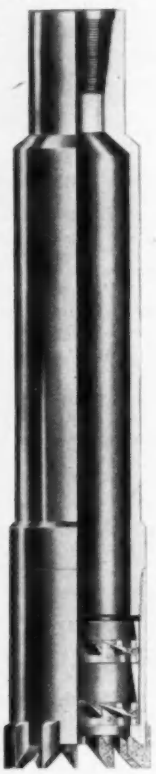
Address or P. O. Box_____

City_____ State_____

(Print or type clearly name, company and address)

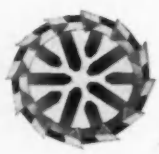
5—Hole Conditioner

Globe Oil Tools Company, Los Nietos, California, has developed a Junk Extractor and Hole Conditioner which the manufacturer claims will recover cores up to 77 percent of the hole size. The device is designed and engineered to recover junk and fish of all descriptions, and to recondition the hole if it is crooked or if it has been damaged.



When operating, the head cuts its way down around the junk on the bottom. As junk passes upward in the barrel, the upper and lower catchers hold it in place until the barrel is pulled out of the hole. Junk and fish can be recovered with or without cutting a core.

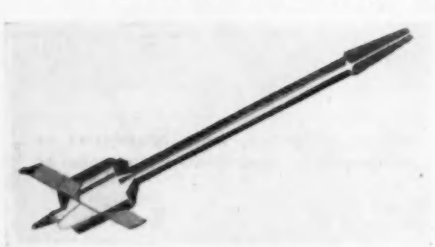
In straigtening crooked holes, the barrel is lowered to the point where the hole begins to go off vertical, and is then rotated at high speed. The narrow teeth, tapered toward the inside, quickly cut into the wall on one side of the hole and an entirely new hole is started. After the shoulder once has been cut, the formation passing upward on the inside of the barrel helps to hold the head in place and prevents it from sliding down into the old hole. The tool is run until the new hole has been started.



6—Expansive Bit

Bruno Tools, 9330 Santa Monica Boulevard, Beverly Hills, California, has developed a new principle in an expansive bit, created for use in hand braces to cut holes in wood.

The center lip which cuts away the



core at the center of the hole extends back to form a clamp which firmly holds the adjustable blade at the diameter set. The clamp is locked tight by means of a screw. Once locked in the positive wedge-lock V groove, the cutter remains securely in place and cannot get out of adjustment.

The lead screw is threaded finer than usual for this type of tool. It is claimed that this exclusive feature helps pull the bit through the wood, requiring only light pressure to cut quickly and cleanly because the lead screw is continuously and firmly engaged while the adjustable blade is cutting. The threads differ on the two models to correspond to the capacity of each tool. Thus, regardless of the diameter of the hole being cut, whether through thin material or thick, clean, true holes are cut with a minimum of effort. A large open throat keeps the cutters clean of chips.

Adjustment is made easy by a graduated scale on the blade.

The removable center lip or cutter serves as a clamp to hold the blade.

Use the Coupon

For additional information on these products see coupon on preceding page.

7—Pipe Coating

The Fraser Chemical Company, 2024 Milby Street, Houston, announces a plastic coating for pipe, called Plasteel.

This coating is applied by spraying and is recommended for cathodic protection. It is claimed that stepped-up tests equivalent to 14 years of underground service have shown no effect on the coated pipe. Other tests have shown that a coating of 12½ thousandths of an inch gave a dielectric strength of 7500 volts.

Application can be made on the job by spraying, brushing or dipping. The coating dries quickly and no pickling or wrapping is required.

8—Arc Timer

Harnischfeger Corporation, 4400 West National Street, Milwaukee, Wisconsin, has secured basic patents on the P&H Arc Timer for use in connection with welding control systems. The arc timer is an electric clocking device which, connected to the circuit of a welding machine, records the actual time spent by the operator in depositing weld metal.

Literature

9—Extinguisher Installation

Randolph Laboratories, 8 East Kinzie Street, Chicago 11, Illinois, has prepared a new fire extinguisher installation guide that illustrates which extinguishers should be used and installed for different kinds of fires.

Designed to help mobilize employe fire-fighting, these guides are recommended for posting over every fire extinguisher in a plant. The chart, 8½ x 20 inches, is gum-edged.

The installation guide divides fires into the standard "A," "B" and "C" classifications, with large illustrations of typical fires in each division. Also pictured are the extinguishers to be used, including carbon dioxide, vaporizing liquid (carbon tetrachloride), soda-acid, foam, and pump tanks.

10—Synthetic Rubber

Fabrics & Finishes Department, E. I. du Pont de Nemours & Company, Wilmington, Delaware, has published a technical service manual describing Du Pont "Fairprene" synthetic rubber sheet stocks.

The ten-page booklet supplies in graphs and charts testing procedures and results to determine resistance to oils, greases, gasoline, kerosine and crude oils, also alcohol solvents, acids and alkalis, resistance to natural and accelerated aging in air and oxygen, resistance to heat and cold, fresh and salt water, set and drift as well as flame resistance.

11—Wire Belt Hooks

The Bristol Company, Mill Supply Division, Waterbury 91, Connecticut, has announced publication of a bulletin describing its line of wire belt hooks for all types of flat belting. The bulletin is liberally illustrated to show method of applying hooks to belts. Specification information and prices are also given.

12—Rubber Goods

Miller Products Company, Inc., of 29 Warren Street, New York, has issued a pocket-size 34-page catalog of rubber neoprene and other synthetic rubber goods.

This catalog is illustrated and includes prices. Items listed include clothing, gloves, footwear, aprons and other protective apparel, also hose, tubing, packing, V-belting, coated fabrics, acid-handling equipment, safety devices, buckets, molded parts, gaskets, waste cans, dippers, rubber mallets and sealing tape.

13—Hardware

The Thomas Laughlin Company of Portland, Maine, announces publication of its first industrial and marine hardware catalog since 1942.

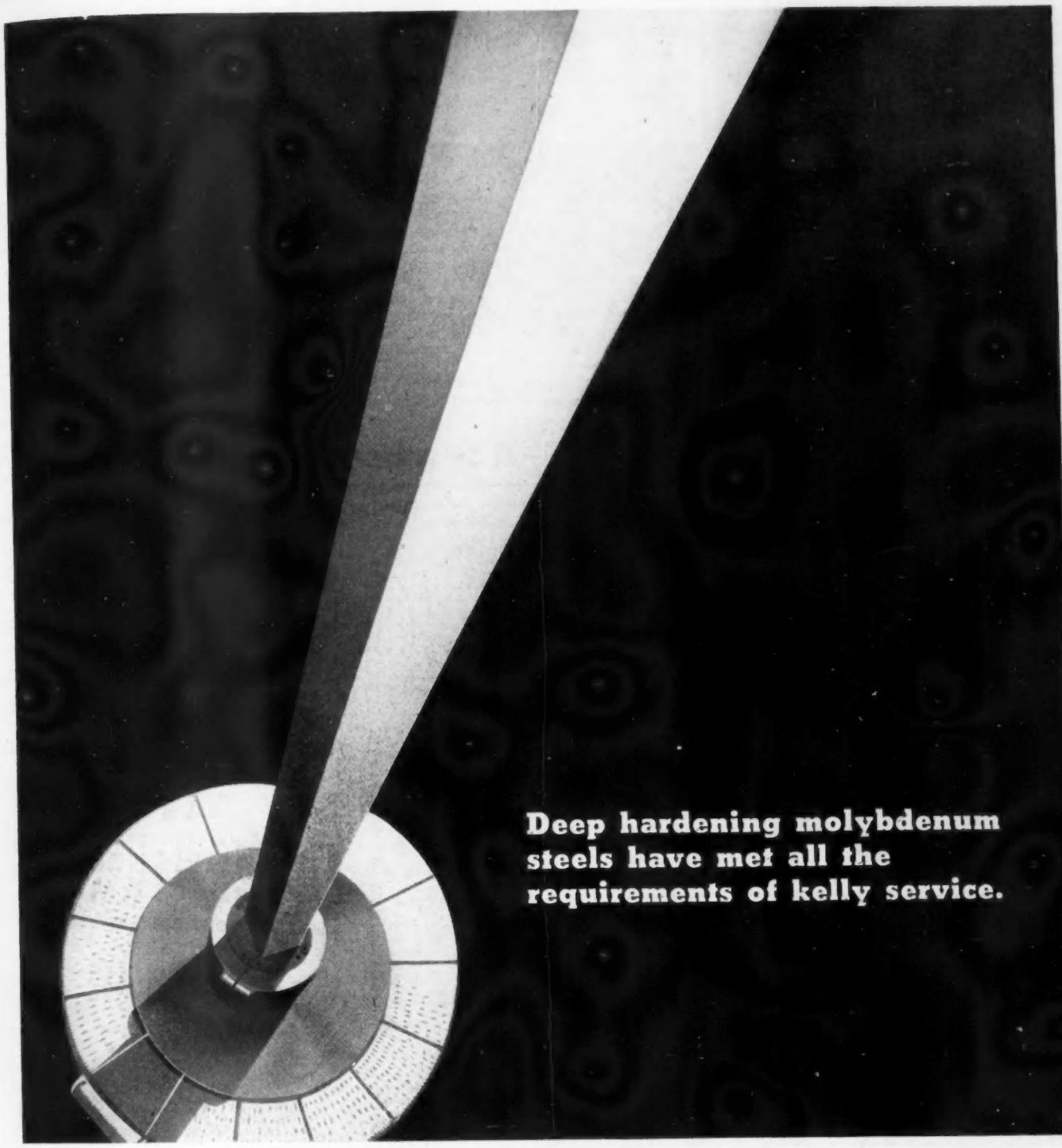
This catalog illustrates, describes, charts and lists prices on all available items in the line.

Typical of engineering data is a comprehensive chart which shows the 14 vital dimensions of hoist hooks, specifying by hook number the safe load and proper size for proof coil and BBB chains, plow steel and improved plow steel wire ropes.

Similar charts cover swivel hooks, turnbuckles, jaws, eyes, shackles, closed wire rope sockets and open wire rope sockets.

Another chart, never before published, gives comparative rope strength with recommended turnbuckle size and type for each size rope.

The catalog is indexed in great detail.



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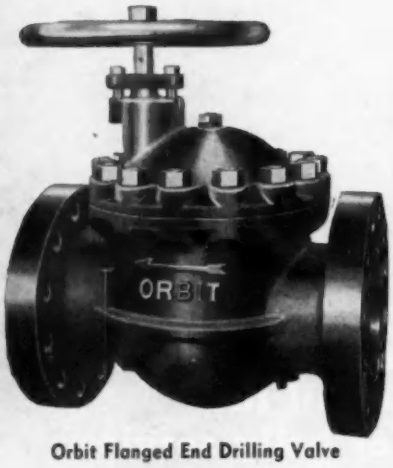

Orbit Flanged End Drilling Valve

Orbit Drilling Valves are available in both full opening and nominal opening sizes. With flanged or screwed ends.

See 1944 Composite Catalog Pages 2193 to 2212

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ORBIT VALVE COMPANY
TULSA, OKLAHOMA

Cooper-Bessemer Installs Large Compressor Group

The Cooper-Bessemer Corporation, Mount Vernon, Ohio, recently completed installation of one of the largest groups of angle gas compressors ever assembled under one roof. The installation was for Cities Service Transportation and Chemical Company, at Guymon, Oklahoma.

The distribution system is capable of pumping 270,000,000 cubic feet of gas per day. The installation consists of 15 GMV-10 cylinder Cooper-Bessemer units, each rated at 1000 brake horsepower. Each unit is equipped with three 8-inch x 14-inch double-acting, liner type, cast compressor cylinders with a capacity of 18,000,000 cubic feet per day.

The compressor plant pumps natural gas from the Hugoton field to Blackwell, Oklahoma.

The 15 compressors give the plant 15,000 brake horsepower under one roof.

53 New Types of Synthetic Rubber Made by U. S. Firm

United States Rubber Company, Rockefeller Center, New York, announces that 53 new types of synthetic rubber were produced in the three synthetic rubber plants operated by the company in 1944.

Of these new rubbers eight types have been adopted for regular use in the manufacture of rubber insulation of electric wire and cable, porous rubber storage battery separators, asbestos sheet packing, and pressure sensitive adhesives.

Wins E Award

The Otis Helium Plant at Otis, Kansas, operated by the Petroleum and Natural Gas Division of the Bureau of Mines, United States Department of Interior, was awarded the Army-Navy E for excellence in production of helium.

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Fig. F-613

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